THE QUALITY SCHOOLS MODEL OF EDUCATION REFORM: A DESCRIPTION OF STAFF FOCUS BELIEFS AND PRACTICES USING BALDRIGE IN EDUCATION CRITERIA

A

DISSERTATION

Presented to the Faculty

Of the University of Alaska Fairbanks

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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Fairbanks, Alaska

August 2008

THE QUALITY SCHOOLS MODEL OF EDUCATION REFORM: A DESCRIPTION OF STAFF FOCUS BELIEFS AND PRACTICES USING BALDRIGE IN EDUCATION CRITERIA

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ABSTRACT

This study used a mixed-methods approach to analyze the implementation of the Quality Schools Model through the lens of the seven Malcolm Baldrige Education Criteria. Specifically, this study was an inquiry to determine the beliefs and practices of one of the criterion, Staff Focus, and the effect on these perceptions of professional role, years of education experience and years of experience working with the Quality Schools Model. Through structural equation modeling, this research also examined the fit between the Baldrige in Education theoretical model and actual practice of the Baldrige concepts in the three studied school districts implementing the Quality Schools Model.

A 72-item questionnaire with two response scales was used to measure staff members' perceptions of the importance and practice of Staff Learning and Staff Motivation. The questionnaire was administered to 212 administrators, teachers, and classified staff in three rural Alaska school districts. Qualitative data about the implementation of the model was gathered through 14 semi-structured interviews with community members, Elders, school board members, parents, and school staff.

Results from the questionnaire data showed that Staff Learning and Staff Motivation were considered very important by staff members irrespective of job classification, years of educational experience, or years of QSM experience. While the majority of staff members perceived Staff Learning and Staff Motivation as practiced frequently or always practiced, they perceived them as significantly more important than in practice in their district and schools. Administrators' perceptions of the frequency of practice of Staff Motivation were significantly higher than those of teachers

or classified staff. Qualitative data revealed that learning required by staff for QSM implementation is demanding and complex, particularly during initial implementation of the model. However, staff and community members attributed improvements in student learning and the increased participation of students in their learning to implementation of the QSM, and these were motivating factors for staff members, as were the shared vision and shared leadership components of the QSM. The structural model corroborated the importance of Staff Focus showing that it was directly, positively affected by Leadership and that it had a direct, positive effect on Results.

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PREFACE

This dissertation is one of four to study the implementation of the Quality Schools Model in rural schools in Alaska. I was a member of a cohort of four doctoral students with a common interest in studying the effectiveness of education reform in Alaska. Our cohort shared a common core of coursework, collected a common body of research data, and shared faculty and some dissertation committee members. Each member of the cohort selected one category from the Baldrige Education Criteria for Performance Excellence as the focus of his research. The research design and instruments are common to the cohort, as is the "stem" for our individual research questions. We collaborated on the writing of chapters 1, 2, and 3 with each of us individualizing the chapters according to our writing styles and specific area of interest. The four cohort members and their dissertation topics were:

Robert Crumley - Leadership: Its Relationship to the Quality Schools Model in Three Rural Alaska School Districts

Dale Cope – Knowledge Management: Its Relationship to the Quality Schools Model in Three Rural Alaska School Districts

Steve Atwater- Process Management: Its Relationship to the Quality Schools Model in Three Rural Alaska School Districts

Susan McCauley – Staff Focus: Its Relationship to the Quality Schools Model in Three Rural Alaska School Districts

CHAPTER 1: INTRODUCTION TO THE STUDY

Chapter 1 introduces a study to describe the implementation of the Quality Schools Model in three rural Alaskan school districts using the following organizational framework: Statement of the Problem, Background of the Study, Significance of the Study, Purpose of the Study, and Research Questions.

1.1 Statement of the Problem

Since their formation in 1976, when the state-operated school system was eliminated, Alaska's rural school districts have pursued a number of educational reform efforts that have failed to significantly improve the academic standing of their students. The 45 rural school districts that operate in villages and communities across rural Alaska primarily serve Alaska Native students whose "educational attainment is still well below that of non-Native Alaskans" (Goldsmith, Angvik, Howe, Hill, & Leask, 2004, p. 6-16). While dropout rates among all regions in Alaska were similar in 1992, by 2002 Alaskan regions with the highest Native enrollment had significantly higher dropout rates than other regions (Goldsmith et al., 2004). National Assessment of Educational Progress (NAEP) data from 1996 and 2003 show that non-Native students were about three times as likely as Alaska Native students to receive "proficient" scores in math and reading in the fourth and eighth grades (Goldsmith et al., 2004). Data from the 2006 administration of the Alaska High School Graduation Qualifying Exam, on which students must score "proficient" in order to receive a high school diploma, show that while 74% of all 10th graders who took the reading portion passed, only 51% of Alaska Native students passed, compared to 86% of White students (Institute of Social and Economic Research, 2005).

The reform efforts that rural Alaskan districts have pursued include those encouraged at the state level in response to the national standards movements as well as those initiated at the local level by individual districts or schools. Following a path similar to that of educational reform nationwide over the past two decades, Alaskan reform efforts have sought to engage community members, business leaders, nonprofit organizations, and other stakeholders, as well as to leverage organizational quality concepts toward reform structures that are systemic and sustainable. However, some feel that many reform efforts implemented for Alaska Native students have been based exclusively on

> short-term localized considerations, or research conclusions drawn from conditions outside of Alaska. This has been a theme throughout the history of reforms in the state, and it continues today as the state looks to the "Lower 48" for quick-fix solutions to long-standing schooling challenges. (C. Barnhardt, 2001, p. 2)

This study seeks to describe the implementation of one Alaskan-based educational reform effort, the Quality Schools Model (QSM), in three rural Alaskan school districts: Bering Strait School District, Lake and Peninsula School District, and Kuspuk School District. The research cohort selected these districts because they have been involved in the reform effort for at least four years. In this study, I consider implementation of the QSM through the lens of the Malcolm Baldrige Education Criteria for Performance Excellence (National Institute of Standards and Technology [NIST] The Baldrige

National Quality Program, 2006), focusing on the criterion of Staff Focus. The Baldrige Criteria will be described in detail in Chapter 3 of this dissertation.

1.2 Background of the Study

In the mid-1990s, the Chugach School District, a small district primarily serving Alaska Native students in communities on Prince William Sound, developed the QSM of educational reform. Since that time, 12 districts throughout Alaska have replicated the model, either in whole or in part. The QSM has four components aimed at comprehensive, systemic improvement of teaching and learning: Leadership, Shared Vision, Standards-Based Design, and Continuous Improvement. I discuss each of these components in detail in chapter 3.

The design of the QSM includes the "pieces" of educational reform described as necessary in educational reform literature. These include the use of quality standards in multiple content areas, well-designed assessments, accountability mechanisms, professional development, and effective instructional strategies (Chudowsky, Kober, Gayler, & Hamilton, 2002). Marzano (2005) concluded that "to one degree or another, the quality schools model appears to address a majority" (p. 43) of the 11 criteria of the Comprehensive School Reform Program, a federally funded initiative aimed at encouraging schools to adopt proven comprehensive reform models.

Several key elements of the QSM distinguish it from other reform models. First, it bases student progression toward graduation on demonstrated mastery of content rather than on "seat time" in a grade level. Students in QSM schools are organized for learning based on "performance levels" for each of the content areas, and progress from level to

level occurs through the completion of assessments designed to demonstrate proficiency. Second, students do not earn credits toward graduation. Most of the schools and districts adopting the QSM have applied to the Alaska Department of Education for a waiver of the Carnegie unit requirement for graduation from high school. A student in a QSM school graduates when he or she has demonstrated proficiency in the standards for each content area. A third distinction of the QSM is its requirement that students show proficiency in areas such as personal social health, service learning, and cultural awareness. In QSM schools, the required curriculum includes content areas that are often left to student choice through electives in traditional educational structures.

The design of the Quality Schools Model has been significantly influenced by business practices and concepts, particularly that of organizational quality. Defined in management literature as "a set of activities, processes, and mindsets that are linked to improved product and service excellence" (Winn, 1996, p. 1), "organizational quality principles assist organizations in the continuous improvement necessary for quality or effectiveness" (Sallis, 1993, p. 3). However, the premise that a school district should operate with a business-like approach toward its management is often met with reservation.

The issue of whether business practices can be applied to education has been the subject of debate for decades. Skeptics claim that because education is not a closed system in which one can control the variables that affect learning (Thompson, 2003), the application of business theory to education is inherently flawed. Furthermore, the imprecise definition in education of the terms *product* and *customer* causes many who try

to apply a business approach to the field of education to struggle (Poston, 1997). On the other hand, education critics argue that schools, unlike businesses, are "typified by an absence of measurable goals, loose coupling, little direct connection between acquired resources and products, an ability to ignore major constituencies, and ... a tradition of resistance to assessments of effectiveness" (Cameron, 1986, p. 88). The designers of the QSM attempted to address these criticisms by establishing clear learning objectives for students, systems for input from and accountability to stakeholders, and mechanisms for assessing organizational performance and needs for improvement. Rather than taking the known and easier path which relys solely upon traditional lagging indicators such as state student test results, the QSM utilizes a balanced scorecard to analyze school and district performance. Development of a balanced scorecard that includes a profile of both leading and lagging information to measure school and district performance is a major advancement of the QSM. In addition to bucking tradition and developing a balanced accountability system without the support policy makers, the QSM undertook the challenge of quantifying numerous leading indicators or processes that had not been quantified to date. That the QSM has been successful, at least in one respect, in meeting business and industry definitions of organizational quality is evident in the fact that the QSM received the nation's premier award for performance excellence and quality achievement, the Malcolm Baldrige National Quality Award.

In 2001, the Chugach School District, the founding district of the QSM, received the Malcolm Baldrige National Quality Award, becoming one of the first two educational organizations to do so. The Malcolm Baldrige Education Criteria for Performance

Excellence are the product of a public sector–private sector partnership whose mission is to improve the performance of U.S. organizations. The award, named after the 26th U.S. Secretary of Commerce, came into existence in 1987. Twelve years later, President Clinton expanded the Criteria to include health care and education. Educational organizations now use the seven education criteria (Leadership; Strategic Planning; Student, Stakeholder, and Market Focus; Measurement Analysis and Knowledge Management; Faculty and Staff Focus; Process Management; and Results) as diagnostic tools to identify strengths and opportunities for improvement (National Institute of Standards and Technology, The Baldrige National Quality Program, 2006). Because the criteria focus on organizational performance, they can be used to apply a systems perspective to a school district. Other researchers have used the Baldrige in Education Criteria to examine the importance of various educational reform initiatives, as the criteria relate to observable processes and outcomes that should be evident as indicators of success within any educational reform.

Chugach School District's recognition with the Baldrige Award bolstered the replication of the QSM in other districts and schools in Alaska. At one point, 12 districts and four schools (in districts that had not adopted the QSM) were at some stage of QSM implementation. In the past 6 years, however, that number has decreased to six districts and two schools. With the exception of the Chugach School District, the three districts that are the focus of this study have been implementing the QSM for the longest period.

1.3 Significance of the Study

Authors in the educational reform literature (Fullan, 2001b, 2003; Sallis, 1993; Schlechty, 2001) have advised that ad hoc, episodic initiatives (Duffy, 2003) are rarely successful because they are not systemic in their approach and hence have little chance of being sustained. Some contend that reform efforts fail because the problems and solutions are mismatched. For example, Cuban (1990) argued,

> It is important to policy makers, practitioners, administrators, and researchers to understand why reforms return but seldom substantially alter the regularities of schooling. The risks involved with a lack of understanding include pursuing problems with mismatched solutions, spending energies needlessly, and accumulating despair... We can do better by gathering data on particular reforms and tracing their life history in particular classrooms, schools, districts, and regions. More can be done by studying reforms in governance, school structures, curricula, and instruction over time to determine whether patterns exist. (p. 11)

Three broad areas within literature and research are relevant to this study. The first area is the history of the reform movement in the United States. Various authors (e.g., Fullan, 2001, 2003; Levine, 2005) have advanced a systemic rather than school-by-school approach to educational reform. The second area is organizational management. Management concepts have encourage this systemic approach influenced through a "systems" perspective that gained credibility first in the world of business and industry, but is increasingly being applied to educational reform (Lezotte, 2003). The third area is the use of effective, culturally responsive practices for education and reform initiatives in

indigenous cultures. A growing body of knowledge exists to guide educators in this area. Chapter 2 will address these three broad areas, as well as provide detailed explanations of the Quality Schools Model and the Baldrige Criteria.

While these broad topics offer much guidance for those seeking to improve teaching and learning for rural Alaskan students, and for assessing how the QSM might reflect effective and appropriate reform approaches for education in rural Alaska, only four studies have focused or commented specifically on the implementation of the QSM in rural Alaska. I review these four studies in detail in Chapter 2, however an overview is provided here for the purpose of illustrating how the research for this dissertation is informed by, and will build upon, previous research.

The earliest study of the QSM in rural Alaska, conducted by Jester (2002), was a case study of the development of the reform model in Chugach School District. Jester's objective was to "understand the district's standards-based reform in sociohistorical context" (p. 1). Jester was very critical of the QSM and concluded that Chugach administrators and teachers had developed and perpetuated an "unhealthy Native construct" (p. 29) for the purpose of indoctrinating Alaska Native students in the ways of the dominant society. This conclusion raised issues about transferability of the model to other districts. Reagle (2007) sought to address the criticisms Jester leveled against the QSM, utilizing methods that included documenting the words of Alaska Natives. In contrast to Jester, Reagle found that QSM implementation in the Bering Strait School District "resulted in positive involvement of students, parents and community members" (p. 174); "new interaction patterns of involvement for Alaska Native parents and

community members that have potential for sustainable results" (p. 175); and "a genuine shared vision that was fostered and supported by students, parents, community members, and educators" (p. 183). Marzano (2005), in a study that considered the QSM within the context of Comprehensive School Reform Criteria (see Table 1.0), found that "in general, the QSM addresses the vast majority of the 11 CSR criteria at least to some extent" (p. 46).

Table 1.0

U.S. Department of Education Criteria for a Comprehensive School Program

Criterion	Description
1	Employs proven methods for student learning, teaching and school management that are based on scientific research and practices that have been replicated successfully in schools
2	Integrates instruction, assessment, classroom management, professional development, parental involvement, and school management
3	Provides high-quality and continuous teacher and staff professional development and training
4	Includes measurable goals for student academic achievement and establishes benchmarks for meeting those goals
5	Is supported by teachers, principles, administrators, and other staff throughout the school
6	Provides support for teachers, principals, administrators, and other school staff by creating shared leadership and a broad base of responsibility for reform efforts
7	Provides for the meaningful involvement of parents and the local community in planning, implementing, and evaluating school improvement activities
8	Uses high-quality external technical support and assistance from an entity that has experience and expertise in school wide reform and improvement
9	Includes a plan for the annual evaluation of the implementation of the school reform and the student results achieved
10	Identifies the available federal, state, local, and private financial and other resources that schools can use to coordinate services that support and sustain the school reform effort
11	Meets one of the following requirements: Either the program has been found through scientifically based research, to significantly improve the academic achievement of students; or strong evidence has shown that the program will significantly improve the academic achievement of students

A fourth study, done by Coladarci, Smith and Whiteley (2005) concluded that student achievement was higher in schools within districts implementing the Quality

Schools Model and also higher in districts with a longer history of implementation of the model, though they did not make a causal correlation between the two.

In the study conducted for this dissertation, I sought to build upon these previous QSM-focused studies in several ways. First, as recommended by Jester (2002), this study describes the perceptions of stakeholders in districts other than Chugach regarding QSM implementation. Second, it builds upon the study Reagle (2007) conducted in the Bering Strait School District specifically addressing her recommendation to consider the professional development of staff which has not previously been the focus of a QSM-related study. Findings regarding the professional development of staff may assist in providing the participating districts with specific recommendations for effective professional development practices, a recommendation of Marzano (2005, p. 48). Finally, in addition to the variable of years of QSM involvement considered by Coladarci, Smith and Whiteley (2005), this study explores additional demographic variables of participating staff members.

While building upon the previous studies as outlined above, this study views QSM implementation through the lens of the Baldrige in Education Criteria which have not been used before as a means of studying QSM implementation. The results of the study should provide guidance for others who want to implement the Quality Schools Model and use the Baldrige in Education criteria to measure their progress.

1.4 Purpose of the Study

The purpose of this study is to describe the implementation of the Quality Schools Model in three rural Alaskan school districts by examining the importance and

existence of the Baldrige in Education Criteria as perceived by faculty, staff, and community members. Using a concurrent mixed methods approach, I administered a questionnaire to school staff to measure the importance and existence of the Baldrige Criterion of Staff Focus, and to explore the relationships between respondents' demographic characteristics and the degree to which they consider Staff Focus factors to be important and in practice. At the same time that we collected survey data, the members of my research group gathered information on the implementation of the QSM through semi-structured interviews of school staff and community members. Chapter 3 of this dissertation describes the methodology for this research in detail.

I conducted this research in collaboration with three other individuals, working together as a cohort. All cohort members used the same survey research instrument and interview protocol. Each cohort member used data gathered through the survey and interviews to answer his or her individual research questions.

1.5 Research Questions

Four broad research questions with supporting, alternative hypotheses are the focus of this study:

Research Question 1. To what extent do administrators, staff, and community members perceive Staff Focus to be important as a part of the Quality Schools Model in their schools?

Hypothesis 1.1. Certificated staff and classified staff differ in the extent to which they perceive Staff Focus factors to be important in their schools

Hypothesis 1.2. Respondents with more educational work experience differ from those with less educational work experience in the extent to which they perceive Staff Focus factors to be important in their schools.

Hypothesis 1.3. Respondents with more experience in the Quality Schools Model differ from those with less experience in the Quality Schools Model in the extent to which they perceive Staff Focus factors to be important in their schools.

Research Question 2. To what extent do administrators, staff, and community members perceive Staff Focus to be in practice as a part of the Quality Schools Model in their schools?

Hypothesis 2.1. Certificated staff and classified staff differ in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Hypothesis 2.2. Respondents with more educational work experience differ from those with less educational work experience in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Hypothesis 2.3. Respondents with more experience in the Quality Schools Model differ from those with less experience in the Quality Schools Model in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Research Question 3. Are there statistically significant differences between the extent to which respondents perceive Staff Focus to be important and the extent to which they perceive Staff Focus to be in practice as part of the Quality Schools Model in their schools?

Hypothesis 3.1. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for certificated staff and non-certificated staff.

Hypothesis 2.2. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for respondents with more and less years of educational work experience.

Hypothesis 2.3. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for participants with greater than and fewer than 3 years of experience with the Quality Schools Model.

Research Question 4. What are the relationships among the Baldrige Criteria that describe the Quality Schools Model?

Hypothesis 4.1. The variable of Staff Focus has a direct effect on Results as proposed by the Baldrige Criteria theoretical model.

Hypothesis 4.2. The variable of Staff Focus has a direct effect on Strategic Planning, Student, Stakeholder, and Market Focus, and Process Management as proposed by the Baldrige Criteria theoretical model.

Hypothesis 4.3. The variable of Staff Focus is indirectly affected by Leadership as proposed by the Baldrige Criteria theoretical model.

1.6 Chapter Summary

In Chapter 1, I introduced the problem addressed in this study, provided relevant background, outlined the study's significance and purpose, and identified this study's research questions. Chapter 2 contains a review of the literature that is important to the study and provides additional information regarding the Quality Schools Model and the Baldrige Criteria for Performance Excellence.

CHAPTER 2: REVIEW OF THE LITERATURE

In this chapter, I provide a review of literature relevant to this study. It is divided into six major sections: Education Reform; Systems Theory and Organizational Structures; Education of Alaska Native Children and Alaska Educational Reform; The Quality Schools Model; The Quality Perspective and the Malcolm Baldrige National Quality Award; and Staff Focus.

In order to review theoretical and empirical literature most relevant to this study, the cohort members collaboratively identified key search phrases relevant to all four of us, and I individually identified key search phrases relevant to my specific area of interest, Staff Focus. These search phrases included *Baldrige in Education, Quality Schools Model, comprehensive school reform, total quality management in K-12 education, education in Alaska, Alaska educational reform, history of education in Alaska, and professional development for reform.* The cohort found a total of 824 sources of literature were found that were of general interest to all four researchers, along with 311 sources of empirical evidence in the form of recent dissertations primarily related to Baldrige in Education, comprehensive school reform, and the role of professional development for reform. Obviously, for the scope of this research a process was needed to select the most relevant material.

Glatthorn and Joyner (1998) and Gall, Borg, and Gall (1996) described fairly straightforward methods of evaluating a large number of search results. They recommended looking for key authors related to the selected topics; checking the document title and type to locate research studies and theory rather than reports of

practice; looking for the most current information; and concentrating initially on scholarly or refereed journals. After our cohort applied these guidelines, we had a much smaller group of abstracts that we subsequently read to pare down the resources to those most relevant and useful.

To narrow the 311 empirical studies found in the initial search, the cohort used the processes described by Glatthorn and Joyner (1998) and Gall, Borg, and Gall (1996) again, reducing the number of possible titles to 91. We then employed some of the process features described by Marzano, Waters, and McNulty (2005) to focus the recent dissertation research to 21 sources. In their meta-analysis of leadership studies, Marzano et al. identified key conditions for inclusion in the group of studies they considered, such as span of time, location of the schools, size of the sample, and so on. Many of the empirical research studies my cohort found on the topics of Baldrige in Education and Comprehensive School Reform were case studies, sometimes based on very small samples and/or with results and conclusions not supported by other writers. I noted themes that emerged from more than one study for inclusion in this chapter, particularly when the results were consistent with the theoretical or expert literature. I found four studies of the QSM, which I discuss in detail in this chapter.

I organized the sections for this chapter by beginning with the broadest topic, educational reform, and progressing with each section toward my specific area of study, professional development for reform.

2.1 Education Reform

The QSM is a model of educational reform that is intended to produce systemic and sustainable changes to the educational process. Its design reflects an understanding of what has as well as what has not been effective over a long history of reform efforts in the United States. This section reviews the history of educational reform in this country and the evolution of reform from a school-to-school to a systemic approach.

2.1.1 Prior to A Nation at Risk

Many authors cite *A Nation at Risk*, the report by the National Commission on Excellence in Education, chaired by David P. Gardner (1983), as the catalyst for educational reform in the United States. Its warning of a "rising tide of mediocrity that threatens our very future as a Nation" (p. 8) "motivated more significant changes in the manner in which American K–12 public schools conduct business than virtually any event or condition preceding it" (Guthrie & Springer, 2004, p. 25). However, several events prior to the report laid the groundwork for the reform that occurred in response to its publication.

The Elementary and Secondary Education Act, signed into law by President Lyndon Johnson in 1965 (U.S. congress 1965, Sec. 201) as part of his "War on Poverty", increased the federal government's authority over schools by providing targeted resources to disadvantaged students. Title I of this legislation imposed fiscal accountability on states and districts by requiring them to allocate federal money only to schools with the highest concentrations of poverty; to equalize the amount spent on these schools with the amount allocated to schools not receiving federal education dollars; and

to use Title I funds as a supplement to, rather than a replacement for, local spending (Wong, 2003). Johnson (1966) purported that "every one of the billion dollars that we spend on this program will come back tenfold as school dropouts change to school graduates" (para. 4). The Coleman report would soon challenge this contention.

The Coleman report, written by Coleman et al. (1966) and officially titled The Equal Educational Opportunity Survey, was a congressionally mandated study by the U.S. Office of Education investigating the effects of school resources on student achievement. Many interpreted the results as suggesting that schools have little effect on student achievement, though some have argued "this interpretation confuses the effects of measured differences with the full effects of school and has been shown to be wrong" (Hanushek, 1998, p. 19). The findings of the Coleman report were controversial, and other researchers responded to what they considered fatalistic conclusions from the Coleman report with research of their own. In one early response to the report, Klitgaard and Hall (1974) challenged the methodology of Coleman's input/output studies. They claimed that because the Coleman study had examined the average effect of all schools in a sample on student outcomes, it measured only general effects. Furthermore, they argued, the effectiveness of individual students could have been masked, and some effective schools might have gone unnoticed. Both proponents and critics of the report leveraged it in ways that influenced the larger political platform of educational reform, as well as the specific structures of school reform models.

In 1980, Congress created the U.S. Department of Education by combining the offices of several federal agencies. The Department's original mission addressed the issue

of equality of access explored in the Coleman report, which had stressed the need to "strengthen the federal commitment to assuring access to equal educational opportunity for every individual" (Coleman et al., 1966, p. 19). The Department's purpose also reflected one of the continuing debates in educational reform—centralized versus decentralized authority over schools—leaning toward the latter. In the Department of Education Organization Act (1979), Congress declared that the purpose of the Department of Education was to

> protect the rights of State and local governments and public and private educational institutions in the areas of educational policies and administration of programs and to strengthen and improve the control of such governments and institutions over their own educational programs and policies. (p. 3)

The Department's purpose also reflected support for more decentralized school reform efforts. The soon-to-be released *A Nation at Risk* report would call into serious question the autonomy of local authority over education and capitalize on research regarding what constitutes effective schooling.

A report by Edmonds and Frederickson (1979) synthesized the research and experimentation of the previous decade, with the goal of identifying the common characteristics of schools that were achieving success in educating all students regardless of family background or socioeconomic status. The work Edmond and Frederickson synthesized had grown largely in response to the controversial Coleman report, which had focused on a student's family background as a primary factor in his or her success in school. The Edmonds effective schools research named seven interrelated indicators or

conditions that influence student learning. Lezotte (1991) outlined these factors, called *correlates*, as follows:

1. Clear School Mission - In the effective school, there is a clearly articulated school mission that includes instructional goals, priorities, assessment procedures and accountability. Staff accepts responsibility for students' learning the school's essential curricular goals.
2. High Expectations for Success - In the effective school, there is a climate of expectation in which the staff believe and demonstrate that all students can attain mastery of the essential content and school skills, and the staff also believe that they have the capability to help all students achieve that mastery.
3. Instructional Leadership - In the effective school, the principal acts as an instructional leader and effectively and persistently communicates a mission of instructional leadership to the staff, parents, and students.
4. Frequent Monitoring of Student Progress - In the effective school, student academic progress is measured frequently using a variety of assessment procedures. The results of the assessments are used to improve individual student performance and also to improve the instructional program.
5. Opportunity to Learn/Student Time on Task - In the effective school, teachers allocate a significant amount of classroom time to instruction in the essential content and skills. Whole class or large group, teacher-directed, planned learning activities are evident a high percentage of time.

6. Safe and Orderly Environment - In the effective school, there is an orderly, purposeful, businesslike atmosphere which is free from the threat of physical harm. The school climate is not oppressive and is conducive to teaching and learning.
7. Home - School Relations - In the effective school, parents understand and support the school's basic mission and are given the opportunity to play an important role in helping the school to achieve that mission.

These "Correlates of Effective Schools" marked the beginning of what would become known as the Effective Schools Movement and provided the foundation for much post-*Nation at Risk* reform.

2.1.2 A Nation at Risk and Effective Schools

When A Nation at Risk was published in 1983 it provided "a seminal event in the sense that it called attention to the question about the quality of education in the country," (Casserly, n.d., para. 6). Its forceful language warning that "America's place in the world will be either secured or forfeited," (National Commission on Excellence in Education, 1983, p. 30) provided the first concrete step in the education reform that would follow: it articulated a problem and the national and international consequences for the United States. Its findings targeted the curriculum, expectations for students, time spent on learning, and the preparedness of teachers criticizing everything from a "cafeteria-style curriculum" (National Commission on Excellence in Education, 1983) to "poor management of classroom time" (p. 19). Though some have called *A Nation at Risk* "more of a political treatise than a thoughtful statement for the reform of American

schools," (Hlebowitsh, 1990, p. 88) and criticized its author's choice of rhetoric (Guthrie and Springer, 2004), it "accelerated a paradigm shift from measuring American education success by resources received to results achieved," (Guthrie and Springer, p. 26). Achieving those results became a policy focus at the national level, while researchers and educators focused at the local level on experimentation and implementation of school reform models based on effective schools research.

The "effective schools movement" focused on two questions: (a) Do effective schools exist? and, if so, (b) What do they look like? Good and Brophy (1985) reasoned that if one could find some meaningful variation in performance among schools, then it followed that one could improve student performance in schools. Such research, Good and Brophy predicted, would highlight individual schools where achievement was universally high. They summarized their reasoning as follows:

> Student progress clearly varies from school to school, but the real question is whether this variation in achievement among schools is affected by *school processes* or whether this variation can be explained completely in terms of student factors such as aptitude. (Good & Brophy, p. 7)

Ultimately, a definition and description of an effective school began to evolve, which contained three common elements: a student achievement focus, an emphasis on *all* students, and mastery of basic skills. Mace-Matluck (1986) proposed a composite definition:

> An effective school is one in which the conditions are such that student achievement data show that all students evidence an acceptable minimum mastery

of those essential basic skills that are prerequisite to success at the next level of schooling. (p. 5)

Many "models of school reform" based on research about effective schools began to emerge with the "notion that to reform education in this country you were going to have to do it one school at a time" (Casserly, n.d., para. 27). However, national-level leaders began to explore how federal policy could be leveraged toward addressing the country's education issues in a more cohesive, accountable manner.

2.1.3 National policy changes

The first National Education Summit took place in 1989 in Charlottesville, Virginia. The organizers of the summit invited the country's 50 governors with the intention of establishing education goals for the nation. What resulted was a policy framework organized around six national education goals (later expanded to eight) to be met by the year 2000:

1. All children will start school ready to learn.
2. The high school graduation rate will increase to at least 90%.
3. All students will become competent in challenging subject matter.
4. Teachers will have the knowledge and skills that they need.
5. U.S. students will be first in the world in mathematics and science achievement.
6. Every adult American will be literate.
7. Schools will be safe, disciplined, and free of guns, drugs, and alcohol.
8. Schools will promote parental involvement and participation.

The Summit led to the creation of a National Education Goals Panel to assess and report on state and national progress towards achieving the goals. Professional organizations such as the National Council of Teachers of Mathematics (1989, 1991, 2000) and the International Association of English Language Arts Teachers were encouraged to develop content and instructional standards, and the National Education Goals Panel encouraged states to use those voluntary standards.

In 1994, the Goals 2000: Educate America Act was signed into law by President Clinton in order to

> Improve learning and teaching by providing a national framework for education reform; to promote the research, consensus building, and systemic changes needed to ensure equitable educational opportunities and high level of educational achievement for all American students; ... [and] to promote the development and adoption of a voluntary national system of skill standards and certification. (1994, sec. 1)

The government-published guide to implementing Goals 2000 (1994) promoted school change created by teachers and administrators working with students, parents, and community members and was instrumental in initiating the school reform in the Chugach School District that led to the development of the QSM. Complementing Goals 2000 was the Improving America's Schools Act (1994), a reauthorization of the Elementary and Secondary Education Act (U.S. Congress, 1965) that continued Title I funding for schools with a large percentage of low-income students. However, rather than endorsing compensatory education efforts to targeted students utilizing "pullout" programs, the

Improving America's Schools Act permitted schools to develop schoolwide reform programs. During the period from 1994 to 1997, the federal General Accounting Office reported that 39% of Goals 2000 money went to subgrants to fund local educational reform activities (General Accounting Office, 1998). The Comprehensive School Reform Program of 1997 provided structure for these reform initiatives, outlining nine specific school-reform components required in order to qualify for federal funds. Federal-level backing of a systemic approach to reform signaled a shift in understanding. By supporting this tactic, policymakers appeared to acknowledge that simply adopting the latest program is not enough to effect long-term change. The accountability movement ushered in by the No Child Left Behind Act of 2001 (NCLB) has challenged this understanding by introducing a desire for "quick fixes." Such measures can lead to frustration for students and school staff who recognize a lack of sustained improvements in their wake (Dale, 2003).

The current condition of education is "symbolized by measurement of outcomes and the construction of today's accountability systems. The No Child Left Behind [legislation] is the driving transitional force behind this" (Guthrie & Springer, 2004, p. 31). Proposed by President Bush shortly after his inauguration, NCLB became law in January 2002, reauthorizing the Elementary and Secondary Education Act (U.S. Congress, 1965). The four stated principles or "pillars" of NCLB are stronger accountability for results, more choices for parents, greater local control and flexibility, and the use of proven education methods. Accountability measures require the establishment of state standards in reading and math, annual testing for all students in

Grades 3 through 8, and annual statewide progress objectives to ensure that all groups of students reach proficiency by the year 2014. Schools that fail to make adequate yearly progress (AYP) toward statewide proficiency goals are subject to increasingly intensive corrective actions. NCLB provides increased parental choice by allowing students who attend Title I schools identified for improvement the opportunity to attend a school that has met AYP. Parents may also elect for their children to receive supplemental services at the school's expense. The Act also furnishes local control and flexibility to states, districts, and schools in determining how NCLB and AYP requirements will be met, though the degree of that flexibility depends largely on whether or not schools and districts meet AYP. For example, the Act permits transferability of federal funds between four federal programs, provided AYP requirements are met. Further, the Act requires the use of proven educational methods by schools and districts as they comply with improvement criteria toward making AYP. Improvement efforts must utilize "scientifically based research" as the foundation for educational programs and classroom instruction.

The accountability measures of NCLB have changed the nature of local and state control over education. According to Guthrie and Springer (2004),

> For most of the [last] three and a half centuries … U.S. public education has been dominated by a doctrine of state plenary authority mixed with the practical reality of local school district management discretion. The new reality is that the accountability measures mandated by NCLB are a new driving force in American education. In essence, the federal government is now the principal propelling

> policy agent behind American education. Herein may reside, for better or worse, the ultimate legacy of "A Nation at Risk." (p. 33)

The nonprofit Center on Education Policy has studied the effect of NCLB since its passage through surveys and interviews of officials at state departments of education and through case studies of individual schools and school districts. Jennings and Rentner (2006) of the CEP concluded that test-driven accountability has become the norm for public schools. Porter (2006) called this a philosophical shift from opportunity to learn to universal competence.

Rothstein, Jacobsen, and Wilder (2006) argued that universal competence is unattainable because "proficiency for all" is an oxymoron. They wrote,

> No goal can be both challenging to and achievable by all students across the achievement distribution. Standards can be either minimal and present little challenge to typical students or challenging and unattainable by below-average students.... it would be impossible to craft standards that simultaneously challenge students at the top, middle, and bottom. (p. 32)

Rothstein et al. acknowledged, however, that closing achievement gaps, meaning eliminating the variation in achievement between socioeconomic groups, is "daunting, but worth striving for" (p. 32).

Lezotte (interview in Sparks, 1993) voiced a different viewpoint related to success for all students. He said it would be foolish to think we know everything we need to know to produce 100% success before beginning to make positive changes. In his opinion, it is possible to help 95% of students succeed by revising existing instructional

systems. He concluded, "While our mission is successful learning for all, mission statements are not supposed to be descriptions of current reality but of a preferred future state" (p. 18).

Jennings and Rentner (2006) named four of the major effects of NCLB on public schools four years after enactment of the legislation. First, they acknowledged reported increases in student achievement as measured on state tests of reading and math, though they also cautioned that there is no standard for comparison across states. Second, they noted that curriculum and instruction were more aligned with standards and assessments, and that school systems used performance data more often for instructional decisions and improvement, with a concurrent improvement in the quality and quantity of professional development for teachers. Third, they found that low-performing schools were more actively engaged in curriculum, staffing, and leadership improvements at the school level than in facing externally imposed changes. Their last finding was that the federal government had a stronger role in education than ever before and that the role of state government in education reflected an increased focus on accountability enforcement, monitoring, and assistance. In individual school districts, more duties had been created or assumed than ever before. In the CEP study, both states and individual school districts reported that they did not have enough funds to administer the requirements of NCLB.

In 2004, the U.S. Department of Education reported findings on individual school success in implementing the CSR components and their effects on student achievement. The Department collected data from a sample of 1,032 schools in 37 states between 1999 and 2001. Researchers then used surveys of principals and teachers, student assessment

data, and focused interviews in a targeted sample of 18 schools. Findings indicated that although the incentive of additional federal money had encouraged more schools to adopt comprehensive school improvement, after two years, indications of effective implementation of school reform were mixed. The CSR program had a focus on externally developed ("scientifically based") reform models, but researchers found that most schools had adapted a reform model they had selected to meet the needs of their local setting. Teachers' professional development was more likely to be influenced by curriculum content standards and student assessment data but was not likely to be focused on broad, comprehensive reform topics or issues. There was no correlation between the small gains in student achievement over the two years of the study and the implementation of CSR initiatives. Researchers cited the need for further longitudinal study of the data, as implementation of large-scale reform is a process that occurs over time. Finally, researchers found few schools that had developed strategies to gain broad, long-term parent and community involvement (U.S. Department of Education, 2004).

The historical events of school reform indicate an evolution from a school-to-school to a systemwide approach. School restructuring within the larger context of systemic school district reform has been the focus of many education experts, including Newmann and Clune (1992), Darling-Hammond (1996), Fuhrman (1993), Fullan (2001b), Murphy and Hallinger (1993), Newmann and Wehlage (1995), and Sizer (1992) and within the effective schools research done by Brookover, Edmonds, Frederickson, and Lezotte beginning in the late 1970s. Increasingly, education researchers are

leveraging the perspectives of experts in the business field to strengthen a call for large-scale reform.

In 2007, the New Commission on the Skills of the American Workforce issued a report entitled *Tough Choices or Tough Times*. The 26 members of the Commission included two former U.S. Secretaries of Labor and two former U.S. Secretaries of Education, as well as numerous business, labor, and university leaders. *Tough Choices or Tough Times* marked a return to the focus on American economic capacity found in *A Nation at Risk*. Over a period of two years, the Commission conducted four substudies investigating economics and labor markets, industry, education systems, and workforce development. These studies included field research in 14 industrialized and emerging countries. The researchers concluded that the United States is falling farther and farther behind in its ability to be competitive in a global economy. The contributing factors, according to the researchers, include a decline in the number of students earning a high school diploma, a decline in the quality of education received by American students, and an increase in the numbers of highly skilled workers in other countries who will work for lower wages than their American counterparts. The report concluded that

> The core problem is that our education and training systems were built for another era, an era in which most workers needed only a rudimentary education. It is not possible to get where we have to go by patching that system. There is not enough money available at any level of our intergovernmental system to fix this problem by spending more on the system we have. We can get where we must go only by changing the system itself … The problem is not with our educators. It is with the

system in which they work. (New Commission on the Skills of the American Workforce, 2007, p. 8)

The next section of this chapter reviews the systems concepts that are relevant to educational reform and the QSM.

2.2 Systems Theory and Organizational Structures

Systems thinking provides a helpful way to look at school reform. Those employing systems thinking do not approach a single event, problem, or action in isolation, instead viewing each phenomenon as a component of larger structures. This section reviews systems concepts that are relevant to educational reform and the QSM.

2.2.1 Implementation Structures

According to Senge et al. (2000), "A system is any perceived whole whose elements 'hang together' because they continually affect each other over time" (p. 78). In their effective schools research, Edmonds and Frederickson (1979) emphasized the individual school as the system for change. Later, researchers realized that in order to sustain school improvement, one must view the school district as the system to change. Lezotte (2003) summarized this shift in thinking as follows:

> Organizational management theories provided significant additions to effective schools research and policy. The concepts of decentralization and empowerment, the importance of organizational culture, and the principles of total quality management and continuous improvement have added important dimensions to our understanding of effective schools. (p. 31)

To make an adequate study of the implementation of a complex initiative like the QSM, in which individuals within different systems are constantly interacting, it is helpful to use Hjern and Porter's (1981) description of implementation structures and Porter's (1990) description of structural poses. Following Porter's schema, one can identify at least five different types of structures that interact in relation to the QSM: (a) government structures, which include federal, state, and local governance and policy functions; (b) organizational structures, which include not only school districts, but also the organizations and businesses with which they interact; (c) professional structures, which include teachers, administrators, and specialists; (d) market structures, which involve the concepts of buyers, sellers, brokers, consumers, and the exchange of goods and services; and (e) implementation structures, which are like a hybrid of the first four types of structures rather than an amalgamation of them. Porter summarized the features of implementation structures as follows: "Implementation structures comprise individuals who set goals, mobilize resources, coordinate their actions, possess specialized expertise, and produce goods and services" (p. 18). Porter continued, "Dominant values that guide relationships among individuals within implementation structures are nonhierarchical, consensual, voluntary, based on shared values, professional competence, and nonterritoriality" (p. 18).

These features of implementation structures are important to consider when conducting an analysis to determine successful QSM implementation or to describe the degree of implementation of the QSM. Porter (1990) noted that "for a prescriptive theory to be effective, it must be descriptive of the reality it intends to modify" (p. 22). For

implementation structures to be effective, the other overlapping systems or structures must also operate effectively—that is, government, the school district and business organizations, professional structures, and market structures. What seems to be the most important tie that binds individuals to the implementation structure is a set of shared values (called *Shared Vision* in the QSM).

2.2.2 Structural Pose

Within the implementation structure, individuals assume different roles and move from being citizens to professionals to consumers, depending on the task and numerous other conditions. Gearing (1968), in his anthropological work studying political activity within Cherokee Indian villages, coined the term structural pose to describe the way individuals participated in structures and adopted a code of behavior and expectations specific to each structure. He noted that individuals moved effortlessly between structures and the norms required to function in each. According to Gearing, the concept of structural pose is useful for describing the behavior of individuals within structures and helps to explain why an action might be considered good in one setting but not in another. Porter (1990) used the structural pose model to describe how individuals can concurrently assume more than one role in the various structures that interact within implementation. To understand the structural pose concept within the context of the QSM, it is helpful to imagine an Alaska Native paraprofessional in a village school who is also a parent and community member. This individual interacts with teachers as a paraprofessional, acts as a "seller" in the knowledge market when she provides culturally specific information to the teachers in her building, acts as a consumer of education

services as a parent, and participates in the organization of the school district as an employee who is supervised by the teacher and building administrator. Meanwhile, within the community, she may have a role or responsibility in the tribal council, and she is impacted by the federal and state NCLB accountability requirements as both a professional and a parent.

2.2.3 Organizational Structure Theory Applied to Education

The QSM is a guide for both strategy and structure for educational reform. Chandler (1962) defined *strategy* as the long-term goals and objectives of an organization and the actions adopted and resources allocated to carry out those goals. In the case of the QSM, a locally determined shared vision drives the model and sets the course for subsequent action. Chandler defined *structure* as the design of the organization, with two notable features. Structure includes lines of authority and communication, as well as data and information that pass through these lines of authority and communication. According to Chandler, "Such lines and such data are essential to assure the effective coordination, appraisal, and planning so necessary in carrying out the basic goals and policies and in knitting together the total resources of the enterprise" (p. 14). The QSM departs somewhat from Chandler's statements on the importance of authority and communication lines in organizational structure, as it relies heavily on the development of a less bureaucratic organization where leadership is shared and where there is strong support for fluid movement of knowledge assets. In this sense, the QSM is more consistent with the implementation structure Porter described.

Porter (2006) likened the NCLB accountability measures to the business structural requirements that gave rise to the multiple-division design Chandler (1962) outlined. Chandler described the problems of industrial organizations in managing and coordinating the activities of increasingly complex, geographically dispersed businesses. This situation had led large companies to adopt multidivisional structures with decentralized decision making and control. With NCLB, federal policy and regulations stipulate the necessary results, but decision making for achieving the results is decentralized, with authority passing from states to individual school districts and further to individual schools. Accountability for results resides with individual schools and school districts; the state and federal government have the power to impose sanctions for NCLB noncompliance.

The debate over the best organizational configuration for schools—whether they should be centralized or decentralized—exists alongside debates over curricula, teaching strategies, and standardized testing. In the debate over configuration, proponents of centralization such as Tucker and Codding (1998) have favored stricter curricular and testing standards at the national level. School-based management has been favored by proponents of decentralization such as Mohrman and Wohlstetter (1994). Advocates of even more decentralization, such as Chubb and Moe (1990), have sought government-funded school vouchers and charter schools.

Ouchi et al. (2003) cited the large body of literature that says higher student achievement is linked to decentralized organizations. In contrast, other researchers have argued that because schools are loosely coupled organizations, structure does not have a

relationship to performance. As Swanson and Stevenson (as cited in Ouchi et al., 2003) explained,

> According to this perspective, the technical work of schooling (teaching and learning) is only loosely tied to the administrative structure of the school. The work of instruction is performed within individual classrooms that are substantially isolated from the teaching practices in other classrooms, even within the same school. (p. 7)

Many school systems are a hybrid type of decentralized organization (called by Williamson [1991] an *M-Form organization*) that centralizes some activities to achieve economy of scale but decentralizes decisions to subunits and provides policy guidance and broad accountability from the central office. In an M-Form school system, most of the major functions of the central office are delegated to individual schools, which are fairly autonomous. For example, schools make decisions about which teachers and support staff to hire, the proportion of teachers to classroom aides, how to use other full or part-time staff, which supplies to purchase, how much to spend on computers, and who goes to which training. Williamson suggested that M-Form organizations outperform other types of organizations.

When subunits of an organization are geographically dispersed, as is the case in rural Alaska school districts, the M-Form is more likely to appear. Williamson (in Ouchi et al., 2003) said that decentralization of decision making is especially important when each operating unit faces unique conditions. He also stated that performance is easier to monitor in M-Form organizations because the subunit has control of most important

decisions. The central organization or district office can fairly measure subunits in terms of outputs such as attendance rates and student achievement on standards-based assessments. The success of educational reform efforts in these geographically dispersed subunits (schools) depends on a well-functioning system of shared leadership.

Ouchi et al. (2003) sought to test Williamson's theory that M-Form school organizations outperform more centralized organizational types. For their study, they selected nine school systems, including the three largest systems in the United States (New York City, Los Angeles, and Chicago) as well as Catholic school systems. Using a number of quantitative measures, they concluded that M-Form systems were the most effective, both financially and educationally. In this study, vertical central control was still present in the M-design districts in the form of reported performance measures from schools.

2.2.4 Universal competence and the Core Technology of Education

With the passage of NCLB, federal policy makers finally abandoned the conclusions of the Coleman report in favor of the philosophy that all students can experience high achievement and that schools can make a difference in students' achievement regardless of their family background. Porter (2006) called this change a philosophical shift from "opportunity to learn" to "universal competence." In the opportunity-to-learn environments of the past, responsibility for ensuring that learning occurred ended when all of the conditions for learning had been provided: facility, instructor, curriculum, and so on. The students' job was to take advantage of what was provided, and if they couldn't or wouldn't, it was their fault that learning did not occur,

not the fault of the system. While NCLB requirements have brought fresh legal challenges related to the opportunity to learn in many states, Alaska included (Moore vs. State of Alaska), this legislation has broadened the focus of educational policy to include the expectation of higher attainment by all students.

"Universal competence" is the philosophy embodied in the effective schools movement and now adopted in the accountability measures of No Child Left Behind. It is the philosophy that all students must achieve certain levels of learning, and that the system has some responsibility for ensuring they do. The question is whether the core technology exists within education systems to deliver on the goal of universal competence.

The technology of education rests on abstract systems of belief about relationships among teachers, curricula, and students. Problems begin to arise when these beliefs are operationalized. Education is an example of intensive technology, where both parties (educator and student) are reciprocally interdependent in the production of services (results). It is called a *custom technology* because all of the right ingredients (capacities) have to be available, accessed, and used in amounts and ways specific to the individual situation (Thompson, 2003). Consider the following example: A classroom teacher calls in a special education teacher to administer a diagnostic test, and they determine the best curriculum and teaching strategies for a particular student together. The education of this student may depend on the teacher consulting with other individuals and accessing other resources as well. Each specific case defines which

component activities are necessary and in what combination from the whole group of possibilities within the organization.

The core technology of teaching and learning demonstrates the concept of reciprocal interdependence, as the actions of the teacher must be adjusted to the actions the student, and vice versa (Thompson, 2003). The actions of teacher and student are synched through coordination by mutual adjustment, which requires a high level of communication and decision making. Reciprocal interdependence is the reason that tutoring and small classes are more effective than large lectures and distance education. Individualized learning is the most costly way for organizations to achieve results, but it is the norm for education.

The core technology of education—the teaching and learning interchange—is coproduced. If learning is the outcome of the delivery of teaching services, the student must be involved for the exchange to occur successfully. The teacher supplies instruction, guidance, and encouragement tailored to the needs of the student, but the teacher and student must work together to increase the student's knowledge.

Broad-scale citizen participation is found during educational policy development, when groups of individuals may band together to influence policy content. A different kind of group involvement comes during policy implementation, when citizens may participate passively by simply paying their taxes. Another example of coproduction of policy on a large scale is not so passive—the implementation of NCLB rules and requirements. It might be argued that the coproduction of NCLB outcomes is happening through numerous mutual adjustment activities.

Whitaker (1980) distinguished between individual and group participation in coproduction and defined three types of coproduction involving individuals. One can see all of Whitaker's three types of coproduction in education, but it is the third type that occurs within teaching and learning:

1. *Citizen requests for assistance.* This type of coproduction takes place only when individuals or groups ask for services. Examples in education include a parent's application for the free and reduced lunch program and a parent's request that his or her child be tested for the gifted education program. This type of coproduction is usually marked by a high degree of rules used to determine the "fit" between the request and certain predetermined conditions. Citizen requests for assistance may have an influence on the distribution of services and resources to a community.
2. *Citizen provision of assistance.* This type of coproduction relies on citizens cooperating with service providers and helping in the design and/or delivery of services to achieve a common goal. In traditional Alaska Native villages, this type of coproduction existed when successful hunters or fishermen shared their bounty with the elderly and other community members who were unable to hunt and fish. Within the context of the QSM, this form of coproduction exists when there is broad community participation in development of the Shared Vision, when an individual volunteers as a mentor to help a student meet Individual Learning Plan goals, and when local community elders teach cultural skills in the classroom. Whitaker (1980) noted the power of a constituency in this type of coproduction by saying, "One way for citizens to indicate lack of agreement that a policy [or school

reform] is good is to fail to cooperate. If enough citizens withhold their assistance, a project based on cooperation cannot succeed" (p. 244).

3. *Citizen/agent mutual adjustment*. This type of coproduction is important when the goal is to modify the recipient's behavior or knowledge. It involves joint consideration of a problem or situation and development of a common understanding of what to do about it. Along the way, the parties modify their expectations and actions, engaging in a high degree of communication. Feedback is internal to this process. In this case, Whitaker said that both student and teacher "share responsibility for deciding what action to take. Moreover, each accords legitimacy to the responsibility of the other" (p. 244).

Whitaker (1980) pointed out that coproduction via mutual adjustment does not necessarily mean the interaction of equals in terms of knowledge or other resources. In the teacher-and-student example, the teacher clearly has greater skill and knowledge than the student and even has the authority to be proscriptive. Despite these disparities, in mutual adjustment, authority is shared—a teacher does not relinquish professional authority but agrees to share it with the student, who has free will and choice over whether to participate in the transaction. Research showing the positive relationship between teacher expectations of students and student achievement and other research showing a correlation between students' perception of teachers as capable and students' willingness to commit to rigorous learning offer examples of the importance of coproduction by mutual adjustment.

Alford (2002) distinguished between citizens, volunteers, and clients in a manner similar to Whitaker and then elaborated on the motivators that elicit coproduction. These motivators, according to Alford, are intrinsic satisfaction, desire for group affiliation and belonging (solidarity), and collective values "for the good of the group." In addition to motivation, Alford claimed, clients need to have the *ability* to coproduce; organizations aid in this process through the simplification of complex work and by providing training, advice, or help to clients. Sanctions are another motivator for coproduction (or at least compliance), albeit not a satisfactory one, as the motivation in this case is the avoidance of punishment. Alford described sanctions as deficient motivators of positive behavior because they send signals to the client that he or she cannot be trusted to coproduce without some sort of enforcement. Alford found that "sanctions are destructive of clients' voluntary impulse to contribute … The end result is that clients experience the organization's enforcement as arbitrary or as bound up in complex rules" (p. 43).

Within education, the accountability requirements of NCLB act as sanctions to create a group of contingently compliant clients. Contingently compliant clients coproduce, either willingly or reluctantly, because of sanctions that lurk in the background. As sanctions occupy the background space, however, clients have the opportunity to participate willingly. Sanctions are only invoked or applied as necessary. In this case, sanctions have the function of reassuring clients who willingly contribute time and effort that the process is inherently fair. In other words, these clients receive the message that they are not "suckers" who are coproducing more than others (Alford, 2002).

Coproduction of education can be particularly challenging in cross-cultural settings. Rural Alaska, one such setting, has a "long tradition of the delivery of educational services from an external benefactor to an indigenous, and presumed indigent, beneficiary, the Alaskan native" (Barnhardt, 1977, p. 1). In the next section of this chapter, I review the literature related to the education of Alaska Native children.

2.3 Education of Alaska Native Children and Alaska Educational Reform

The QSM embodies many of the seven principles of the Standards for Effective Pedagogy (Tharp, 2006) that were advanced as effective cross-cultural education practices for underachieving, placed-at-risk groups such as Alaska Native students. Therefore, this dissertation, which describes a study of the QSM and its implementation in three rural Alaska school districts composed primarily of Alaska Native students, includes a review of the following: (a) the history of educating Alaska's Native children, (b) educational reform efforts that have affected Alaska's rural school districts, and (c) research on Native learning styles.

2.3.1 History of Educating Alaska's Native Children

A review of the history of educating Alaska's Native youth shows a long trail of both judicial and legislative actions and policy related to philosophy, purpose and process of this education. In 1884, soon after Alaska became a territory of the United States, the education of Alaska's Native children began to shift from traditional Native approaches to teaching and learning to a Western style of schooling (Barnhardt, 2001). In the ensuing 125 years, the education of the state's Native students has followed a meandering path that includes statewide initiatives as well as innovative local reform efforts.

The first White settlers in Alaska were Russian fur traders who opened religious catechism schools for some of the Native laborers and their children. After the transfer of Alaska to the United States in 1867, schools for rural Native Alaskans continued to be run by missionaries and by the newly established Bureau of Education, a unit within the Department of the Interior (Darnell, 1979). In the early 1900s, new federal legislation allowed communities to incorporate and establish schools (Barnhardt, 2001). Soon thereafter, the Nelson Act established schools for White and mixed-race children in areas that were unincorporated, while Native students were still educated by the federal Bureau of Education. This dual system of education was not abolished until 1967.

The dual educational system meant that in communities with both Native and non-Native populations, two government schools were maintained. Darnell and Hoem (1996) wrote of this arrangement, "[paradoxically], students in one segment of the population received an education based on the culture of the home; in the other, students received an education alien to the culture of the home" (p. 66). Though educational opportunity and choices have since changed, in testimony before the U.S. Commission on Civil Rights, the president of the Association of Village Council Presidents stated that "[the] children of Native Alaskan villages in effect go to school in a foreign country every day—a foreign country because they don't speak the language and they don't learn about their culture and traditions" (Alaska State Advisory Committee, 2002).

This segregated school system persisted until the 1960s. At the end of World War II, Alaska's Territorial Commissioner of Education proposed a single school system and a common curriculum for Natives and non-Natives, but the federal government rejected

the proposal. Thus, control of Native schools remained with the Bureau of Indian Affairs. Until the 1970s, Alaska's rural Native students had to either travel to Sitka to attend Mount Edgecumbe or leave the state in order to attend high school. As Ray (1958, as cited in Cotton, 1984) explained, "The federal policy was to acculturate Alaska Natives by sending the most intellectually advanced youths to boarding schools for a vocational education, then returning them to their village" (p. 31).

As an alternative means of high school education for rural students, in the 1970s the government created a Boarding Home Program and regional schools, both of which required students to leave their home village to pursue an education. Many of the grandparents and parents of the Native students who were part of the current study attended school under these circumstances and conditions. During this time, the educational philosophy of the federal government regarding Native students included an expectation that Natives would become assimilated into non-Native culture, and that the high school curriculum for Natives should be strictly vocational (Barnhardt, 2005; Cotton, 1984; Darnell & Hoem, 1996).

Congress defined the educational rights of all students in the Civil Rights Act of 1964. In the Elementary and Secondary Education Act in 1965, Congress designated federal funds for disadvantaged students. However, one of the most significant changes in education in Alaska occurred in 1976 as a result of *Tobeluk v. Lind*, commonly known as the "Molly Hootch case." The lawsuit was based on the argument that rural village high school students did not have an equal opportunity to learn because there was no high school in their community (Cotton, 1984). The settlement of the case spelled out the

criteria for the opportunity to learn: a high school in every village that wanted one, along with provisions for the size of the facility. Equally significant, the settlement stated that the decision-making power over schools had to be turned over to local communities. This resulted in the dismantling of the previous federal and state system of oversight and administration for Alaska's rural schools and the creation of 20 (now 23) new regional school districts, called Regional Educational Attendance Areas (REAAs). Of significance is that the REAA had responsibility for school curricula, staffing, and budgets.

Most recently, a case concerning funding for the education of students in rural communities came before the Alaska Supreme Court. Two of the school districts in this study, Bering Strait and Kuspuk, were plaintiffs in the *Moore v. State of Alaska* (2005) class action suit, which alleged that the State of Alaska was not adequately funding education in rural Alaska. The Alaska Supreme Court ruled in 2007 that while there was not a preponderance of evidence that the state was not adequately funding rural education, the state was not adequately monitoring district use of resources to meet the educational needs of students. A final decision in the case is expected in 2009 or 2010; until then, the court is allowing the State time to provide assistance to low-performing districts. It is within this local and state setting that recent educational reform in Alaska has occurred.

2.3.2 Educational Reform in Alaska

Most state-level reform efforts in Alaska schools have been based on "national models related to issues of accountability, standards, and standardized testing of students and teachers" (Barnhardt, 2001, p. 26). These efforts have followed a timeline and a process similar to those in other states and have included many of the state policy changes seen elsewhere, with resultant standards around which school districts have been encouraged to organize curricula and instruction. In the 1990s, Alaska responded early to federal education policy changes and the call for states to develop academic standards. Work to create voluntary content standards began in 1991; this effort was named the Alaska Quality Schools Initiative (QSI) in 1996. Districts could receive QSI grants if they adopted standards, provided additional services to students who were not meeting the standards, and trained staff to monitor student learning toward meeting the standards. By 1998, the Alaskan legislature had passed laws mandating (a) competency testing before students could receive a high school diploma (initially, this provision was effective in 2002; later, the date was changed to 2004); (b) the development of student performance standards in reading, writing, and math; and (c) annual reports by districts to the state and local communities with specific information about student and district performance. For the past five years, NCLB-compliant reform efforts in Alaska have mirrored those in other states.

Several reform efforts in Alaska, including the Quality Schools Model, have attempted to bridge a gap between state- and federal-level accountability and local control. One reform effort unique to Alaska was the Rural Systemic Initiative (ARSI),

started in 1996 with several large grants. Housed at the University of Alaska, the purpose of ARSI was to integrate the indigenous knowledge system and the formal education system. ARSI consisted of five initiatives: Native Ways of Knowing and Teaching; Culturally Aligned Curriculum Adaptations; Indigenous Science Knowledge Base; Elders and Cultural Camps; and Village Science Applications. All three of the districts in this study have had a high level of involvement with the various components of the Rural Systemic Initiative and use curriculum developed through the initiative. The results of the initiative have included documentation of indigenous knowledge systems and the development of culturally based curriculum, especially in science and math. Evaluators of ARSI found some evidence of higher student achievement in districts that participated in the initiative, and a greater percentage of students who started post-secondary education, with a higher proportion of students choosing rigorous curriculum at the University of Alaska. They also documented a decrease in student dropout rates, though the rates were still higher than the state average (Kushman and Barnhardt, 1999).

In 1998 the Rural Systemic Initiative, supported by the National Science Foundation, the Alaska Federation of Natives, the Annenberg Rural Challenge and local Native Corporations, published cultural standards for Alaska students. These cultural standards contained broad statements of what students should know and be able to do as a result of their experience in a school that was culturally aware. The student standards were later included in a more comprehensive set of standards called the Alaska Standards for Culturally Responsive Schools (Alaska Native Knowledge Network, 1998). The Culturally Responsive Schools document was developed by a panel of Alaska Native

educators as a way for schools to measure their effectiveness in meeting students' cultural needs and included the student standards as well as standards for educators, the curriculum, the school, and the community. The Alaska cultural standards are reflected in the design of the Quality Schools Model. Overall however, the implementation of the cultural standards was voluntary and has not been uniform among Alaska schools and school districts.

Another reform initiative, Alaska Onward to Excellence (AOTE) was initially developed at the Northwest Regional Education Laboratory (NWREL) in 1981 and resulted from research on effective schools. The hallmark feature of AOTE, used in Alaska since 1992, was the creation of partnerships between schools and communities. School districts and village schools received guidance and support for working closely with community stakeholders to establish a mission and student learning outcomes. Action steps to achieve established goals were initiated and led by local teams. Speaking of the need for a holistic, community approach to education reform, Kushman and Barnhardt (2001) said, "educational reformers need to realize that in places like rural Alaska, there is a strong link between educational improvement and community health" (p. 25). They further cautioned that reform, to be successful must be embraced by the community through ownership and that the purpose for the reforms must be absolutely clear and widely supported. In a study of the implementation of the AOTE process, Kushman and Barnhardt found it was most successful in communities where trusting relationships were developed with the community; where parents participated actively in school life and decision-making; where school leadership was shared with community

members; and where the schools embraced a larger purpose that included teaching to a set of cultural standards. A third reform effort, the Quality Schools Model, attempted to incorporate some of the successful national reform efforts in a local manner that emphasized contextual teaching and increased local governance. It is described in detail in a later section of this chapter.

Despite these reform efforts, barriers to learning have persisted in Alaska. Beaulieu (2000) and the McDowell Group (2001) cited factors that can be barriers to success and must be mitigated in order to accomplish educational reform in schools and districts serving Native students in order to help these students have a positive academic experience. In addition to the high dropout rates cited in the 2003 Civil Rights report, they pointed to high professional staff turnover and limited knowledge of the school staff about effective processes for school improvement in predominantly Native populations. The needs of a higher proportion of English Language Learners must be considered in some cases, as must issues of substance abuse, violence, and crime that can touch the life of every member of a very small community. Further, any educational reform initiative within a Native community must honor community educational objectives for the retention of language and culture.

Eisner (2004) claimed that overarching educational policies that have focused on homogenized results have been inhibitors of educational reform and success for students with diverse intellectual strengths. He wrote, "Good schools increase individual differences, not reduce them. Effective schools increase variance or individual differences among students" (p. 36).

Barnhardt (1992) and Demmert, McCardle, Mele-McCarthy, and Leos (2006) described characteristics necessary in school systems and school personnel for success in an Alaskan Native cultural setting. First, they said administrators needed to create an environment that would facilitate maximum "ad hoc" communication: a constant flow of knowledge between the school and community that allows for ongoing adjustment of action and plenty of opportunity for informal conversation and second, practice participatory decision-making in a way that community members can contribute their point of view without surrendering their uniqueness to do so. Barnhardt recommended that school systems be decentralized to the largest extent possible so that control and decision making reside in the local community where accommodations can be made to the physical environment and the culture of the community. Along with local decision making, community participation needs to be built into the system in meaningful ways so that a sense of shared ownership is developed, along with the cultivation of a shared unity of purpose (shared vision).

The Quality Schools Model is an attempt to incorporate some of the successful national reform components in a local manner that emphasizes contextual teaching and increased local governance. It also seeks to address in its Balanced Instruction Model the reason most often cited for the lower performance of Alaska's rural schools: a disconnect between the style of the Western school and the Native students.

2.3.3 Western Style Schooling and Alaska Native Students

Many have argued that the development of Alaska's rural schools was based on the erroneous assumption that a Western style of schooling would be successful with

Native students (Barnhardt, 2001; Darnell, 1979). Kawagley (1995) pointed out that a style of schooling based on Western beliefs and practices has not always meshed well with the Native worldview. Demmert et al. (2006) echoed this sentiment by stating that the Western approach to education does not foster or include the Native style of passing on traditional knowledge. After reviewing the literature on this subject, one could easily conclude that the struggle between traditional Native methods of learning and the Western approach to schooling—a struggle first identified in 1928 in the Merriman report—is still active today.

More than 20 years ago, researchers showed that differences between a student's home culture and the mainstream behaviors promoted by the school can contribute to academic and social failure for the student (Heath, 1983; Ogbu, 1987). Continued disparities between the academic performance of Alaska Native students and their White counterparts suggest that both cultural differences between the home and the school and the gap between the pedagogical style of the traditional Western school and the learning styles of Native students are reasons for Native students' lower performance.

Native learning styles have been a topic of intense review and debate. Several authors (Bland, 1975; Kleinfeld & Nelson, 1991; Stellern, Collins, Guitierrez, & Patterson, 1986) have reported that their research was inconclusive in terms of revealing a dominant learning style for American Indian/Alaska Native students. McIvor (1999) asserted that there is no absolute or generic "Indian learning style." From this research, one may surmise that learning style is not genetic, but is rather, as Vygotsky (1988) stated, a result of socialization processes. While it may be wrong to claim that the

learning style of each group or tribe is unique, there is research to support the contention that learning is best facilitated when the cultural personality of the student is in sync with the school's style of pedagogy (Greymorning, 2000).

Research on the learning styles of Native children (Pewewardy, 2002) has found that four learning traits are common among the members of this group: (a) a field-dependent or global-processing learning style (Kogan, 1971, Tharp & Yamauchi, 2004), (b) a visual style (Lipiniski, 1989, 1990), (c) a reflective style (Hall, 1991; McShane & Plas, 1994), and (d) the classroom management positive effecting learning style (Lipka et al., 2005; Scollon & Scollon, 1981; Tharp, 1989). It is noteworthy that the four styles do not include an auditory approach. This is significant, as the traditional Western approach to education stresses auditory learning. With the assumption that learning style is not random, one can fairly state that if the schooling process is to be effective, then the approach toward learning must include contextual material that makes a connection to the student's culture. Lipka et al. (2005) conducted research on teaching math to Alaska Native students through a curriculum that included contextual models (e.g., a fish rack). Results of this research indicated that the culturally relevant approach led to an increase in students' learning when compared to a more traditional, Western style of math instruction with this same group of students. Barta et al. (2001) suggested that a contextual approach to learning—one that includes culturally relevant curricula—is a necessary bridge between home and school.

Sternberg (2006), reporting on studies conducted with students in both Alaska and Kenya, found that capitalizing on students' cultural strengths improved their

achievement. In Sternberg's work, researchers assessed students' creative and analytic abilities with questions related to practical, culturally relevant knowledge. The researchers presented these questions on tests that mimicked the hallmark features of standardized tests (i.e., tests that included written, objective, and multiple-choice items). Under these conditions, researchers found that students had a depth of adaptive knowledge and skills that were not apparent on standardized tests. Sternberg concluded, "Which students do well depends on what we test" (p. 31). Contrasting performance-based demonstrations of knowledge with standardized tests, Barnhardt and Kawagley (2005) said,

> In Western terms, competency is often assessed based on predetermined ideas of what a person should know, which is then measured indirectly through various forms of "objective" tests.... In the traditional Native sense, competency has an unequivocal relationship to survival or extinction—if one fails as a caribou hunter, the entire family is in jeopardy. One either has or does not have requisite knowledge, and it is tested in a real-world context. (p. 11)

Reporting on a 3-year study of rural school reform conducted by the Northwest Regional Educational Lab and University of Alaska Fairbanks researchers, Kushman and Barnhardt (1999) recommended the following strategies as means for increasing educational achievement for Alaska Native students, all of which are present in the components of the QSM:

1. Provide role models and support for creating a positive self-image to which students can aspire.

2. Parent involvement needs to be treated as a partnership with more shared decision making.
3. Strengthen curriculum support for culturally responsive, place-based approaches that integrate local and global academic and practical learning.
4. Encourage the development of multiple paths for students to meet the state standards.
5. Sustainable reform needs to be a bottom up rather than a top down process and has to have a purpose beyond reform for reform's sake.

Although research on the education of American Indians and Alaska Natives was still ongoing, the U.S. Commission on Civil Rights issued a comprehensive report in 2003 entitled *A Quiet Crisis: Federal Funding and Unmet Needs in Indian Country*, in which the authors drew the following conclusion with regard to the education of Native American students:

> As a group, Native American students are not afforded educational opportunities equal to other American students. They routinely face deteriorating school facilities, underpaid teachers, weak curricula, discriminatory treatment, and outdated learning tools. In addition, the cultural histories and practices of Native students are rarely incorporated in the learning environment. As a result, achievement gaps persist with Native American students scoring lower than any other racial/ethnic group in basic levels of reading, math, and history. Native American students are also less likely to graduate from high school and more likely to drop out in earlier grades. (U.S. Commission on Civil Rights, 2003, p. xi)

The U.S. Commission on Civil Rights report stated that opportunity to learn and cultural factors related to learning, including learning styles associated with Native education, must be addressed in any successful attempt at educational reform. This seems especially important in Alaska, where nearly a quarter of the school-age students are Native. In an educational culture that emphasizes accountability through measurement of student achievement on standardized tests, students have the best chance of success when they understand the "cultural capital" that is being tested (English & Steffy, 2001). Eisner (2004) summarized this concept by paraphrasing Plato: "what is honored in a culture will be promoted there. The kind of intelligence a culture prizes influences its development" (p. 32).

The QSM's inclusion of a contextual approach to instruction may be one of the reasons that Alaska Native students working within this model are achieving increased performance on multiple measures (Coladarci, Smith, and Whiteley, 2005). The next section explains the structure of the Quality Schools Model, and examines its related literature.

2.4 The Quality Schools Model

The three school districts that are the focus of this study have relied heavily on the work of the Chugach School District which developed the Quality Schools Model. This section of the review provides a history of the Model's development, and a review of the literature that examines the model's four components.

2.4.1 Overview of four studies

This section provides an overview of four studies that focus specifically on the QSM. These studies' findings and recommendations for future study are reflected in this dissertation's design.

In his study, conducted in the Chugach School District, Jester (2002) aimed to "understand the district's standards-based reform in sociohistorical context" (p. 1). Jester conducted interviews, made observations, and analyzed documents in order to examine the QSM; he then considered these data within the context of a "civilization-savagism paradigm" (p. 7) that seeks to "erase Indian identity by eliminating external symbols of tribal attachment and replace their tribal identity with the values and behaviors of civilized society" (p. 4). Jester concluded that policies and practices present in Chugach's implementation of the QSM reflected the three strategies used historically to implement the civilization-savagism paradigm. Jester determined that students' short-term attendance at the district's residential Anchorage House "remove[d] Alaska Native children from the perceived unhealthy/inferior homes and communities and immerse[d] them in the healthy/superior environment of the dominant society where they could learn to live healthy/superior lives" (p. 28). Jester considered the inclusion of career, personal, and social development in the Chugach curriculum to be an intentional attempt to focus on nonacademics. This focus, Jester contended, reflected the civilization-savagism strategy of preparing Indian/Alaska Native students for "underclass positions in the U.S. society" (p. 28). Finally, Jester concluded that Chugach administrators and teachers developed and perpetuated an "unhealthy Native construct" (p. 29) for the purpose of

indoctrinating Alaska Native students in the ways of the dominant society. Jester based his findings largely on interviews with Chugach administrators and teachers, and he used their comments as evidence of civilization-savagism strategies at work. Although interviews were conducted with school board members, no interviews were conducted with parents, students, or other community members—key stakeholders in the Shared Vision component of the QSM. Jester perceived these groups as the victims of civilization-savagism strategies. Jester's recommendations for future study include considering how stakeholders in QSM districts perceive the shared-vision concept and how Alaska Natives perceive and respond to standards-based reform.

Reagle (2007) sought to address Jester's (2002) criticisms of the QSM and to discover "how the voices of Alaskan Native people in one school district were and are being impacted by the QSM—the voices of students, parents, community members, and educators" (p. 6). Focusing her mixed-methods research on the Bering Strait School district, Reagle considered quantitative student performance data publicly available through the Alaska Department of Education; she also analyzed qualitative data gathered through written surveys for educators and through interviews with parents, community members, educators, students, and QSM developers. Reagle found that implementation of the QSM in the Bering Strait School District "resulted in positive involvement of students, parents and community members" (p. 174), "new interaction patterns of involvement for Alaska Native parents and community members that have potential for sustainable results" (p. 175), and "a genuine Shared Vision that was fostered and supported by students, parents, community members, and educators" (p. 183).

Challenging Jester's (2002) claim that the QSM marginalized Alaska Natives for the district's benefit, Reagle found that "responses from students, parents, and community members *when asked how the district was different from three years ago* included comments of understanding, satisfaction, and ownership of the new system" (p. 212). Reagle recommended that future QSM research in the Bering Strait School District consider whether new interaction patterns among the schools and communities have been established and how the district supports and staff perceive professional development.

Marzano (2005), in studying the QSM to determine whether it was consistent with Comprehensive School Reform criteria, found that "in general, the QSM addresses the vast majority of the 11 CSR criteria at least to some extent" (p. 46). Table 2.0 provides an overview of the CSR criteria.

Table 2.0

U.S. Department of Education Criteria for a Comprehensive School Program

Criterion	Description
1	Employs proven methods for student learning, teaching and school management that are based on scientific research and practices that have been replicated successfully in schools
2	Integrates instruction, assessment, classroom management, professional development, parental involvement, and school management
3	Provides high-quality and continuous teacher and staff professional development and training
4	Includes measurable goals for student academic achievement and establishes benchmarks for meeting those goals
5	Is supported by teachers, principles, administrators, and other staff throughout the school
6	Provides support for teachers, principals, administrators, and other school staff by creating shared leadership and a broad base of responsibility for reform efforts
7	Provides for the meaningful involvement of parents and the local community in planning, implementing, and evaluating school improvement activities
8	Uses high-quality external technical support and assistance from an entity that has experience and expertise in school wide reform and improvement
9	Includes a plan for the annual evaluation of the implementation of the school reform and the student results achieved
10	Identifies the available federal, state, local, and private financial and other resources that schools can use to coordinate services that support and sustain the school reform effort
11	Meets one of the following requirements: Either the program has been found through scientifically based research, to significantly improve the academic achievement of students; or strong evidence has shown that the program will significantly improve the academic achievement of students

Marzano (2005) found that the QSM adequately met 7 of the 11 CSR criteria. Regarding Criterion 2, Marzano found that "the QSM explicitly or implicitly addresses all aspects of this criterion" (p. 43). Additionally, Marzano stated that goals and benchmarks for student academic achievement (Criterion 4) were "addressed in great detail within the implementation of the QSM" (p. 44). Furthermore, the Continuous Improvement and Leadership components of the QSM address building support for QSM reform efforts and facilitating shared leadership (Criteria 4 and 5; p. 45). Marzano found that the QSM's Continuous Improvement component also addressed parental and community involvement (Criterion 7). The Bill and Melinda Gates Foundation's involvement provided evidence of Criterion 10, which requires obtaining resources to support the reform effort.

Marzano identified four CSR criteria that needed improvement in the QSM. Regarding Criterion 1, he advised that the "QSM's instructional model be simplified and that research and theory supporting the model be detailed in a rigorous and comprehensive" report (p. 47). He suggested the QSM could strengthen Criterion 3, which focuses on staff professional development, by providing districts with specific recommendations for effective practice (p. 48). Criterion 9—which requires the annual evaluation of the school reform model—and Criterion 11—which requires strong evidence of improving students' academic achievement—could be addressed through "an annual review and synthesis of the documented impact of the model on student

achievement" (p. 48). Marzano cited the planned study by Coladarci et al. (2005) as a good place to start.

Coladarci et al.'s (2005) study is the fourth that focuses on the QSM. The researchers invited employees in 16 school districts involved in QSM implementation to participate in an online survey. The Re-Inventing Schools Implementation Monitoring (RIM) Survey contained 32 items that assessed respondents' perceptions of the four QSM components using a six-point scale ranging from *aware of need* to *I teach how*. A total of 642 respondents completed the survey, over half of whom had been in a QSM district for 3 years or more. For each individual, a composite score across all 32 items served as an overall indicator of QSM implementation. The researchers also used mean composite scores to obtain a mean implementation score for each district. Additionally, the researchers used respondents' demographic information to differentiate between perceptions of those who had been in a QSM district for 1 to 2 years and those who had been in a QSM district for more than 2 years. They found that respondents who had a longer history with the QSM "appear to be higher in QSM implementation as measured by the RIM survey" (p. 11). Coladarci et al. also analyzed the results of state-mandated exams in Grades 3, 6, 8, and 10 over a 4-year period (from 2000 to 2004); these data were aggregated across grades to obtain a "proficiency percentage for each content area for each year" (p. 12). Seven of the 15 districts had the highest percentage of reading-proficient students for the 2001-2002 school year; the researchers also found a pattern of increasing writing proficiency across all 4 years. There was no consistent pattern across districts in the area of mathematics. Using the RIM results and the proficiency scores for

2003-2004, the researchers considered whether "districts involved with QSM longer have a higher percentage of proficient students when compared to districts having less experience with QSM" (p. 29). They found that

> in general RIM-related perceptions are positively and significantly correlated with district achievement in 2003-2004: Higher achievement generally is found in districts where employees report higher levels of QSM implementation and lower achievement is found where lower levels of QSM implementation are reported. (p. 34)

The researchers cautioned readers against inferring a causal relationship between RIM scores and proficiency scores, calling the findings "encouraging associations" (p. 34). I will now consider the findings from these four studies, as well as related research, to describe the QSM's four components.

2.4.2 Four components

The QSM provides for systemic educational reform through four interrelated structural components: Leadership, Shared Vision, Standards-Based Design, and Continuous Improvement. The adoption of the model, then, is a necessarily systemic endeavor. It is apparent, however, that many school districts are adopting the model without making the prescribed improvements in all four areas. For instance, some are adopting standards, creating assessments, and improving associated pedagogy without giving adequate attention to the other three components. A partial or staged implementation of the QSM has not yet been studied for its effectiveness. The QSM advocates that a district thoroughly review and, if necessary, improve the model's four

components. I will discuss in more detail below how theory and research are related to each of the four elements.

2.4.2.1 Leadership

Frances Hesselbein, president and CEO of the Peter F. Drucker Foundation, has said that today's leaders must recognize and demonstrate that people are an organization's greatest asset. In systemic educational reform, the best leadership is not a singular effort. Leaders share or distribute responsibility to create ownership. Accordingly, shared leadership is a well-defined feature of the QSM. Leithwood, Seashore-Louis, Anderson, and Wahlstrom (2004) outlined the following three sets of core leadership practices, all of which are included in the QSM:

1. Developing people—Enabling teachers and other staff to do their jobs effectively, offering intellectual support and stimulation to improve the work, and providing models of practice and support.
2. Setting directions for the organization—Developing shared goals, monitoring organizational performance, and promoting effective communication.
3. Redesigning the organization—Creating a productive school culture, modifying organizational structures that undermine the work, and building collaborative processes.

James O'Toole of the Aspen Institute advised that it takes more than technical knowledge to be a leader. The best leaders make the best decisions by including the broadest set of perspectives, taking the longest term view, including the most issues, and looking at all of the consequences for all stakeholder groups. Drucker summarized school

leadership by noting that "successful school leaders ... are those who understand learning needs, develop plans to address those needs, establish priorities, implement the plans, monitor how the needs are being met and are accountable for their actions" (as cited in Sundre & Raisch, 2002).

Marzano et al. (2005) conducted a meta-analysis of 69 research studies to determine the role of leadership, using student achievement scores on large-scale tests as a measure of school effectiveness. The researchers found a correlation of .25 between a principal's leadership behavior and the average academic achievement of students in that principal's school. They then used these findings to develop a set of 21 school leadership principles. These principles were similar to those developed by Cotton (2003), who used a traditional narrative review. The meta-analysis, however, allowed Marzano et al. to form additional hypotheses and conclusions.

The correlations in the Marzano study ranged from .33 for situational awareness to .18 for relationships. Marzano et al. cautioned that ranking the 21 responsibilities based on correlation would lead to erroneous conclusions, and they instead called attention to how tightly clustered most of the correlations were. The researchers used a factor analysis to measure principals' self-reported responses to questions that measured beliefs and practice related to the 21 principles.

In their study, Marzano et al. (2005) found some behaviors to be more important for different degrees of change, which they termed *first-order* and *second-order change*. First-order change affects the daily operation of a school and is neither large nor dramatic. Second-order change, by contrast, involves deep change to the system in

fundamental ways, much like the change that Alaska's QSM was designed to provide. Second-order change is not incremental and is dramatic. Marzano et al. concluded that all 21 of the principles they identified were important to first-order change, at least to some degree. Not all the principles had equal importance, however; Monitoring/Evaluation had the greatest importance, whereas Change Agent was the least significant to first-order change.

By contrast, the researchers identified seven principles important to second-order change, three of which also ranked high for first-order change (Monitoring/Evaluation, Ideals/Beliefs, and Knowledge of Curriculum). These three responsibilities were deemed important to any type of change. Three other responsibilities important for second-order change were ranked low for first-order change (Change Agent, Optimizer, and Flexibility). Marzano et al. also concluded that second-order change negatively affects some principles (Culture, Communication, Order, and Input). This is an important conclusion, as it acknowledges that school leaders may pay a price for implementing second-order change. Specifically, team spirit and communication may deteriorate, order and routine may be disrupted, and staff input and enthusiasm may suffer.

The QSM is an example of a school reform model that strives for second-order change. Leadership responsibilities for second-order change are as follows (Marzano et al., 2005, pp. 70-72):

1. Knowledge of curriculum, instruction, and assessment: specifically, recognizing how the change initiative will affect those functions and having the ability to provide guidance in these critical areas.

2. Optimizer: becoming the driving force behind the change or innovation and championing that belief to others.
3. Intellectual stimulation: becoming knowledgeable about the theory and research behind an innovation and helping others learn more about it.
4. Change agent: being willing to take a risk when the success of a proposed change is not guaranteed and being willing to challenge the status quo.
5. Monitoring/evaluation: using qualitative and quantitative data and evidence to monitor the progress and impact of a change.
6. Flexibility: using situational awareness to determine a balance between being directive and being nondirective relative to the change.
7. Ideals/beliefs: always operating in a consistent manner grounded in personal ideals and beliefs.

In discussing the necessities and challenges of school leadership today, Peter Drucker said,

> Leaders in effective schools emphasize core values and devote time and effort into measuring how those core values are being translated into effective learning. Focusing on outcomes and how to achieve them rather than concentrating only on responsibilities and how to discharge them is among the most difficult challenges facing today's educators (as cited in Sundre & Raisch, 2002).

2.4.2.2 Shared Vision

The QSM is designed to be driven by the vision of a school district's stakeholders. This shared vision of the district's future is used for all goal setting. When

leadership is shared, as it is in the QSM, a strong shared vision must also exist to guide decision-making; such a shared vision is critical to the QSM's success (Reagle, 2007). Without a process for building a shared vision, there is no way for schools to articulate their sense of purpose (Senge et al., 2000). One of Peter Drucker's premier ideas was management by objectives, or achieving a set of results by aligning the work of people within an organization to a shared set of objectives (the Shared Vision). He said, "To achieve long-term success, an organization must have a purpose that elicits the dedication of its people" (as cited in Watson, 2002, p. 56). Drucker said that managing by objectives changes the supervisor's responsibilities so that he or she elicits agreement on and support for these objectives. Employees then define the means for achieving the organization's shared vision. Ted Sizer also supported the need for a shared vision when he stated the following:

> You're not going to get significant, long-term reform unless you have subtle but powerful support and collaboration among teachers, students, and the families of those students in a particular community. Without that, you can get short-term changes in instruction, but you won't get at the heart of reform. (as cited in O'Neil, 1995, p. 4)

The processes of building and spreading a shared vision are more dependent on informal knowledge networks than they are on written and technology-aided communication. In describing the formation of shared vision, Senge et al. (2000) noted the following:

> Catalyzing people's aspirations doesn't happen by accident; it requires time, care, and strategy. To support this creative process, people need to know they have real freedom to say what they want about purpose, meaning, and vision with no limits, encumbrances, or reprisals. (p. 72)

Senge et al. (2000) also noted that the shared vision of a school district brings together all the disparate aspirations of individuals for a common purpose. Developing a shared vision is the important first step in implementing the QSM. In her study of the Bering Strait School District (where 98% of the student population is Alaska Native), Reagle (2007) concluded that the shared-vision process was important for creating focused conversation, developing mutual respect, linking Alaska Native culture to the curriculum, and creating a "bridge" to address past injustices and inequity (p. 182). As part of the QSM, development of the shared vision is not an event but is instead a process that must be revisited. In her study, Reagle found that the shared-vision process and conversations helped the district remain aware of the distinctions between villages spread over a large geographic area. Developing a shared vision over such a large area was challenging and took time, as Reagle acknowledged:

> The time to travel and meet with parents, community members, students, and educators in all of the 15 BSSD sites was not a rushed process. Each visit allowed for conversations to take place amongst communities, as well as time for the information to be shared and discussed locally. Patience and time [are not] virtues typically followed by Western culture; however, [they] are highly valued by

indigenous cultures. BSSD has many Native and long-term non-Native educators who understood this important detail. (p. 183)

2.4.2.3 Standards-Based Design

Fullan (2001b) determined that restructuring initiatives that were limited to procedural changes—such as scheduling in blocks and lengthening school days or calendars—were insufficient for changing educators' understanding of teaching and learning's basic nature and purpose. He did, however, consider the restructuring of curriculum design and delivery for high student achievement to be effective for encouraging deep and fundamental cultural change in education. Research by Kannapel and Clements (2005) and Levine (2005) found that students are successful when schools provide a caring, nurturing environment and high expectations for all students and staff; share leadership roles among all the stakeholders; utilize a curriculum and instructional program that focuses on best practices and research; and have a system in place for continuous improvement (Kannapel & Clements; Levine).

Eight to 10 content areas comprise the core of the Alaska QSM, including the usual academic subjects and innovative areas such as technology, service learning, and personal development. Students attain competency in each content area by showing proficiency in the content level's standards. Researchers, including Levine and Lezotte (1990), have emphasized mastery of academic content and more authentic measurements of curriculum mastery using portfolios, projects, and actual performances (Lezotte, interviewed in Sparks, 1993). Graduation from QSM-aligned schools is competency-

based and a result of clearly defined expectations, defined routes for achievement, and self-directed responsibility for learning.

Marzano (2005) looked at how standards, as well as an instructional model and tools, were used in the QSM. He examined report cards, content and performance standards, and assessment rubrics for the Chugach, Lower Kuskokwim, and Bering Strait School Districts. Using the standards and current assessments, Marzano calculated the number of decision points encountered by teachers at each grade level during an academic year. Because the instructional model was based on the Chugach School District's practices, results in the other two districts were close but not identical to those found in Chugach.

Next, Marzano (2005) looked at the instructional delivery model and tools. The delivery model was composed of direct instruction, performance tasks, thematic units, and individualized learning plans. Additionally, a School-to-Life component occurred in four distinct phases for secondary-school students.

Marzano (2005) concluded that the individualized nature of instruction was one of the QSM's greatest strengths. He acknowledged that the Balanced Instruction Model provides structure and guidance that inexperienced or floundering teachers might find useful. Additionally, teachers and administrators use a common language to talk about the model. Marzano raised concerns, however, about the sheer volume of standards and assessments. There are more student assessment data points within a given level than teachers can be expected to manage, especially as these data points must also be

recorded. He recommended either devising measurement categories or organizing standards into topics to scale back on the number of required student assessments. In his evaluation of the Balanced Instruction Model, Marzano recommended a reconceptualization without sacrificing the model's most effective elements. He called for the model to be simplified by enfolding some elements into larger pieces. This simplification would also eliminate some of the specific terminology that teachers encounter and that causes confusion. Marzano cautioned that when teachers become confused, they regress to what they are comfortable with; as a result, they abandon the changes inherent in the Standards-Based Design component.

2.4.2.4 Continuous Improvement

The Japanese concept of *kaizen*—which roughly means "step-by-step improvement"—is at the heart of continuous improvement, which implies solid and lasting change based on a long series of small and achievable projects (Sallis, 1993). Systems continually send signals to themselves through circular loops of cause-and-effect relationships (Senge et al., 2000). These signals, in turn, drive improvement efforts. The QSM explicitly uses two formal continuous improvement processes; one for students and one for schools, programs and staff. All students have at least one active Individual Learning Plan (ILP). The ILP is a goal setting process where students, teachers, and families collaboratively write goals based upon the students needs, interests, and various performance data. Task analysis is used to develop the Steps to Success and a variety of assessment formats are identified to determine achievement of proficiency. When an ILP is complete, a new ILP is developed. Concurrently, all staff use a variety of data to

develop their individual professional goals in the PIER (Plan, Implement, Evaluate, Refine) process. Schools and major programs of QSM districts develop a PIER as well. Monitoring and measuring success rates for the ILP and PIER processes provides ongoing opportunities for continuous improvement in all aspects of the system. In addition, a growing library of ILP and PIER plans is maintained and used by anyone who may benefit from reviewing successful plans in an effort to make further improvements.

Practicing continuous improvement means being willing to think outside of current paradigms and problem-solving methods. Those engaging in continuous improvement need to be rewarded for their risk taking and willingness to propose and try new ideas. Individual involvement has to be substantive rather than pro forma. When individuals believe their ideas count and are respected, the foundation for continuous improvement is in place (Gemberling, Smith, & Villani, 2004).

By design, the system level QSM Continuous Improvement component calls for decision making based on a thorough review and evaluation of a wide range of performance-based and stakeholder satisfaction-related data sources. The concepts of continuous improvement and systems thinking are undermined by the idea that decision-making in organizations should be based on facts and focus, rather than on perceptions and politics. Because the process is continuous, success can always be increased. When discussing the "problem" of success, Peter Drucker noted, "Success always makes obsolete the very behavior that achieved it. It always creates new realities. It always creates, above all, its own and different problems" (as cited in Sundre & Raisch, 2002).

Sallis (1993) noted several barriers to continuous improvement in school systems, including organizational culture and the tendency of organizations to seek equilibrium (i.e., the tendency to adopt a philosophy of "if it's not broke, don't tinker with it"), lack of time, external pressures, and poor or ineffective communication and knowledge management. Sallis said that "the importance of a clear and positive communication strategy cannot be overstated... Without clear thinking and thoughtful communication, energy can be misdirected and wasted" (p. 127).

Obviously, higher student achievement is the desired QSM implementation outcome. Based on 2003 data, one could conclude achievement for Alaska Native students has not risen over time to the degree it has for other groups of students (McDowell Group, 2004). In an analysis of QSM implementation relative to student performance, Coladarci et al. (2005) concluded that Native student achievement as measured by state benchmark examinations had improved more in schools and districts using the QSM than it had in comparable schools not using the QSM. The researchers also found generally higher student achievement in districts where employees reported higher levels of QSM implementation (as measured by the survey) and lower achievement where lower levels of QSM implementation were reported. They concluded that student achievement in reading and mathematics was positively and significantly correlated to the Shared Vision and Continuous Improvement elements of the QSM.

Research to date suggests that systemic educational reform must be tailored to the local setting and conditions and that a staged implementation may be successful. Jester (2005) questioned how other school districts seeking to implement the model might

recontextualize it, and he concluded that because each Alaska community has unique characteristics, the possibility of implementing the QSM in other Alaska school districts needs further research. Sizer (in O'Neil, 1995) said, "Lasting reform requires creating a climate for local educators and community members to craft their own improvement strategies" (p. 4).

One of the QSM's foundations is that it does not allow social promotion. This approach toward student accountability is also promoted at the district level. As such, continuous improvement efforts should include a holistic examination of the district. Although several models holistically measure a district's performance, the QSM districts consider (because of the Chugach School District's award) the Baldrige Criteria appropriate for this assessment. The next section of this review examines research on the Baldrige Education Criteria.

2.5 The Quality Perspective and the Malcolm Baldrige National Quality Award

In 2002 the Chugach School District received the Malcolm Baldrige National Quality Award, becoming one of two school districts to be the first educational organizations recognized with the award. This section reviews the literature regarding quality, its relevance to effective schools, and its measurement through the Baldrige National Quality Award.

2.5.1 The Quality Perspective

Both Total Quality Management (TQM) and the Baldrige Criteria focus on the implementation and measurement of quality. Experts' various definitions of quality can be broadly summarized as either measured by an objective, fixed set of quantifiable

expectations, or measured through customer satisfaction, which is qualitative. Sallis (1996) wrote that the quality of something is part of its nature. The word *quality* comes from the Latin root *qualis*, which means "what kind of." *Quality* is a relative term when applied to TQM, where quality is measured against some standard. Quality is also dynamic, with both emotional and moral layers, and this has led to numerous differing definitions.

Sallis (1996) provided definitions for two types of quality: procedural and transformational. Procedural quality involves proving that things have happened in accordance with predetermined specifications. Standards-based achievement test scores measured against performance indicators are an example of a procedural quality measure. The key steps for attaining procedural quality are proving, approving, reporting, and building accountability. Transformational quality is based on the need to refocus the organization on the customer rather than on products or outcomes. It embraces the concepts of customer care, customer service, and social responsibility. Organizations achieve transformational quality by determining customer requirements and then building organizational structures and a culture that empower employees to meet customer requirements.

Peters's (1987) findings on quality, based on years of research, were as follows: (a) stakeholders will pay a lot for better quality and even more for the best quality; (b) school systems that provide the best quality will thrive; (c) workers in all parts of the system will become energized by the opportunity to provide top quality; and (d) no

school system has a safe quality lead, as the quality possibilities are dynamic (and increasing) for stakeholders.

Drucker maintained there were three consistent themes related to quality: managing for results, doing things right while doing the right things, and remembering the customer's importance (as cited in Watson, 2002). Drucker also maintained that many nonprofits (including education systems) do not measure their quality performance because they believe good intentions are enough, and he suggested several ways to present quality quantitatively. The first is measuring the cost of poor quality. (In education, this could relate to low student achievement.) The second is the converse, or measuring high quality that results in high student achievement. The third is customer loyalty, or stakeholder satisfaction.

Quality experts have put forth the following definitions of quality (Hoyer & Hoyer, 2001):

1. Philip Crosby: The word *quality* is relative and therefore needs to be measured as conformance to requirements. Quality can then be managed by taking continual measurements to determine conformance. It is essential to first define quality, and then to translate the requirements into measurable characteristics.
2. W. Edwards Deming: Quality must be defined in terms of customer satisfaction. The degree of quality is directly related to the extent an organization satisfies customer needs and expectations. Quality is multidimensional and cannot be measured by a single characteristic.

3. Armand Feigenbaum: Quality must be defined in terms of customer satisfaction. The customer's definition of quality is dynamic, so management's role is to recognize the evolution of that definition.
4. Kaoru Ishikawa: Quality is equal to customer satisfaction, and as consumers' needs and requirements change, so does the definition of quality. Before one can say that a product or service is of high quality, every aspect of the organization that provided the product or service must be of high quality.
5. Joseph Juran: A practical definition of quality is not possible. The best way to define quality is *fitness for use*, where *use* is associated with customer requirements and *fitness* means conformance to measurable product characteristics. Juran's Pareto Principle states that as many as 80% of process problems result from 20% of causes.

Applying quality principles specifically to schools and school systems, Deming (2000) advised that educational leaders' focus should be on transforming school systems rather than on achieving numerical goals. Educators turned to Deming's TQM as a methodology for applying quality principles to education.

2.5.2 Total Quality Management

During World War II, Deming's ideas were used to increase American industrial efficiency. Although well-received by engineers and scientists, TQM did not meet with a receptive audience of business leaders and managers. After the war, Deming was invited to address top business leaders in Japan who were focused on rebuilding the country's economy. By 1980, Japan dominated world markets through successfully exporting

consumer products. U.S. manufacturers finally accepted that the nineteenth century assembly line factory model was outdated, and embraced TQM principles.

TQM theory stresses that continuous improvement of key work processes is the key to improving quality, and also that workers inherently want to do their best work. All focus should be on improving processes to get better results and correct errors, with managers working alongside employees to gather information and implement process improvements. In Deming's vies, no one individual is to blame for errors or performance shortcomings; processes are what caused the error and need fixing.

Educators found strong correlation between Deming's quality principles and effective schools research, summarized in Table 2.1 below (adapted from Teigland, 1993).

Table 2.1

Deming's Quality Points Correlated to Effective Schools Research

Deming's Quality Points	Effective Schools Research
1. Constancy of purpose toward long-range improvement	Long-range goal-focused activity. Clear goals and high expectations commonly shared.
2. Reject commonly accepted levels of delays and mistakes	High and positive achievement expectations. Strategies to avoid nonpromotion of students. School-wide emphasis on basic and higher order skills. Effective use of instructional time.
3. Improve input and seek statistical evidence of quality	Frequent monitoring of student progress using a variety of measures.
4. Seek long-term overall (rather than piece meal) efficiency	System-wide development and improvement.
5. Look for problems in the system	Continuous diagnosis, evaluation, and feedback.
6. Institute on-the-job training	Job embedded professional development, coaching and mentoring.
7. Use modern methods of supervision, including shared learning (managers learning from employees)	Positive school and district climate. Shared consensus on values on goals. Parent involvement and support.
8. Drive out fear	Stability and continuity of key staff. Development of a sense of community.
9. Break down barriers between departments	Total staff involvement in school improvement. Collaborative planning and collegial relationships.
10. Eliminate slogans, provide effective methods	Appropriate level of difficulty for learning tasks. Visible rewards for academic excellence and growth. Well-structured classroom activities. Instruction guided by content. Orderly and disciplined school and classroom environments. Teacher empathy and rapport with students. Curriculum articulation and organization. Emphasis on differentiated instruction and development of problem solving skills.
11. Eliminate work standards	Autonomy and flexibility to implement adaptive practices.
12. Enable pride of workmanship	Teacher-directed classroom management and decision-making. District support for school improvement. Recognition and celebration of academic success.
13. Institute vigorous program of education and retraining	Differentiated instruction. Professional development for teachers.
14. Create management structure for constant improvement of knowledge and effectiveness	Positive accountability and acceptance of responsibility for learning outcomes. Autonomous school-site management.

Many educators have criticized the application of quality principles to education as inappropriate. Deming's TQM focuses on satisfying customers. Within education, a case can be made that the student is the customer; however, others liken students to workers. Here, student knowledge is the product, and teaching and learning is the core operating process (Walpole & Noeth, 2002). Because implementing a focus on quality requires data and data-driven decisions, some critics fear implementation will result in education focusing only on visible and easily measurable outcomes such as achievement test scores, attendance, dropout rates, and so on. Critics believe that the focus on performance measures will inhibit creativity and that other intangible and less measurable education outcomes—such as a love of learning and a sense of curiosity—will suffer (Holt, 1993).

As educational reform has evolved from a school-by-school to a districtwide endeavor, educators have looked to the business world for tools to guide reform efforts. The Baldrige Criteria for Performance Excellence offer one method for implementing TQM concepts.

2.5.3 The Malcolm Baldrige National Quality Award

The Baldrige Criteria feature a strong emphasis on leadership, systems thinking, changes in school culture, and data-driven knowledge management. According to Sarason (1990), these elements were missing in previous educational reform initiatives.

Named for the late Secretary of Commerce under President Reagan, the Malcolm Baldrige National Quality Award was established in 1987 and was originally awarded for three business categories: manufacturing, small business, and service. The Baldrige

Criteria for Performance Excellence were piloted in 1995, and education was officially adopted in 1998 as the fourth Baldrige category. (Healthcare criteria were adopted at the same time and now comprise the fifth Baldrige category.) The Education awards' purposes are to improve school organizational performance practices, capabilities, and results; to facilitate communication and the sharing of best practices within and outside education; and to serve as a tool for understanding and managing performance as well as guiding strategic planning and learning opportunities (National Institute of Standards and Technology [NIST] The Baldrige National Quality Program, 2006).

The Baldrige Education Criteria for Performance Excellence embody 11 core values (NIST, The Baldrige National Quality Program, 2006, pp. 1-5): visionary leadership; learning-centered education; organizational and personal learning; the valuing of faculty, staff, and partners; agility; focus on the future; management for innovation; management by fact; social responsibility; focus on results and creating value; and a systems perspective. The Education criteria's seven categories are Leadership; Strategic Planning; Student, Stakeholder, and Market Focus; Measurement, Analysis, and Knowledge Management; Faculty and Staff Focus; Process Management; and Results. These seven criteria focus on organizational performance measured by student learning outcomes, student- and stakeholder-focused outcomes (including satisfaction, financial, budget, and market outcomes), faculty and staff outcomes, internal operational performance measures of organizational effectiveness, and leadership and social responsibility outcomes. A broad number of areas are measured to represent the needs and satisfaction of all stakeholders, as well as both long- and short-term goals. The

Baldrige Criteria do not specify a particular organizational structure or type of management, and they focus on results rather than on procedures to allow for flexibility, innovation, and responsiveness to local conditions and needs. The Baldrige Criteria encompass Deming's 14 quality points.

The Baldrige Criteria primarily focus on teaching and learning, as this is education's core process. According to the Education criteria, students are the key customers of educational organizations, and other groups—such as parents, employers, and communities—are stakeholders. Within the Education criteria, excellence has three qualities: a well-designed and well-executed assessment strategy; year-to-year improvement in the key measures and indicators of performance, especially student learning; and demonstrated leadership in performance and performance improvement relative to comparable organizations and appropriate benchmarks (NIST, 2006, p. 7). The diagram in Figure 2.1 shows the systems perspective of the seven Baldrige Criteria and illustrates key linkages among the categories.

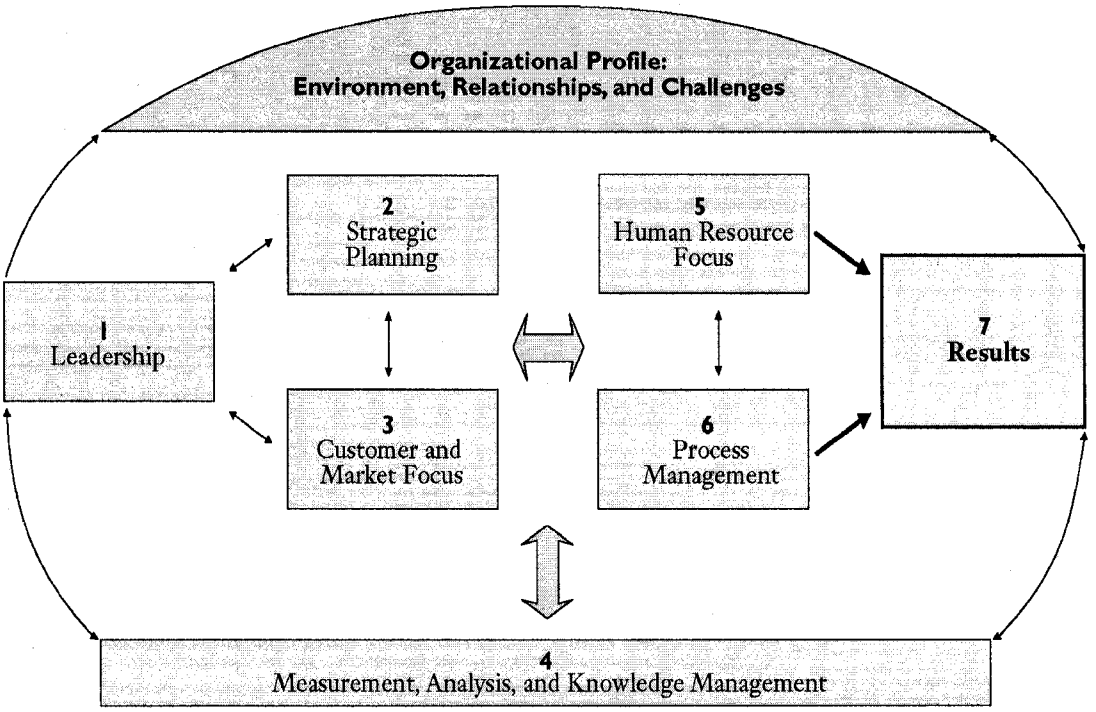

Figure 2.1 *Baldrige Education Criteria for Performance Excellence Framework: A Systems perspective*

2.5.4 The Relationship among the Baldrige Categories in Practice

In practice, others have found relationships among Baldrige in Education categories that are different from those depicted in Figure 2.1. Winn and Cameron (1998) administered a survey to 4,800 respondents at a large Midwestern university to determine the strength of correlations between the Baldrige in Education categories. The researchers concluded that the assumed relationships in Figure 2.1 were different from those in actual practice, and they proposed the view shown in Figure 2.2.

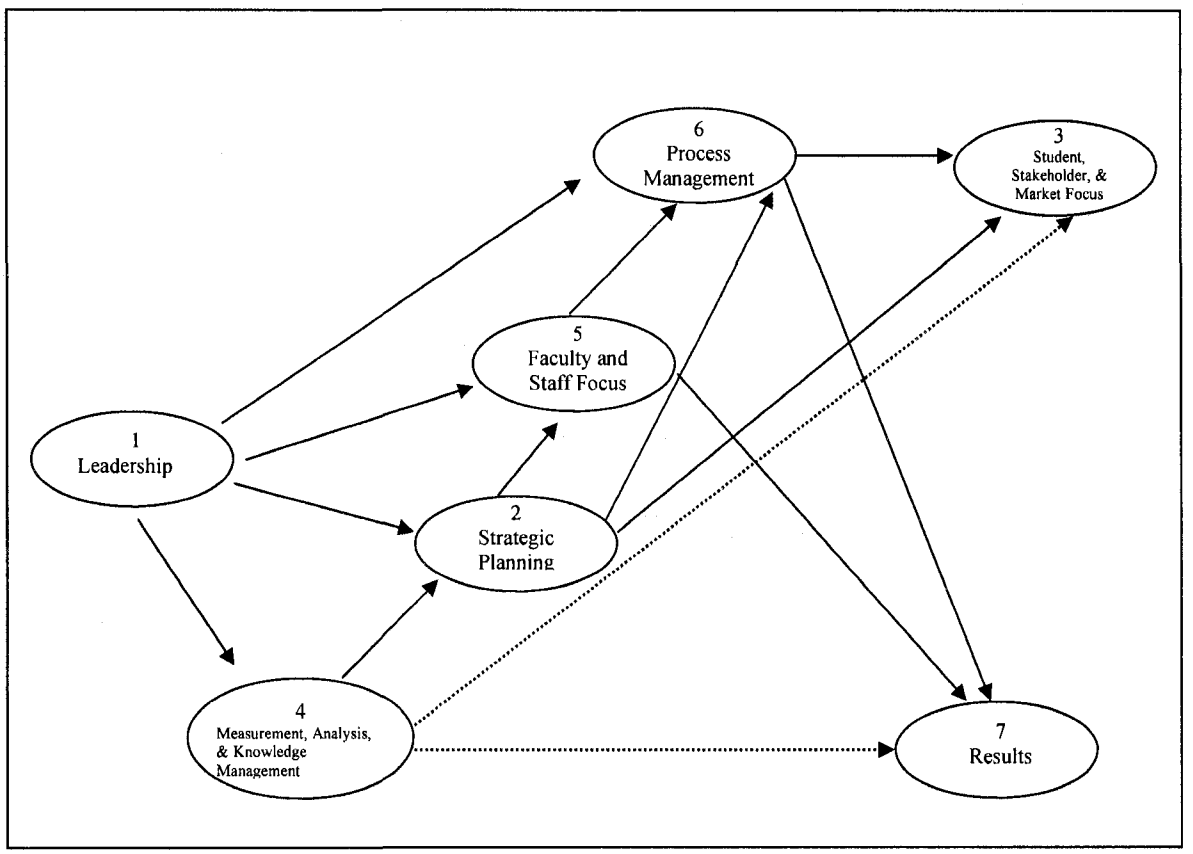

Figure 2.2 *Relationship among MBNQA Education categories according to Winn (1996 p.110).*

Winn and Cameron (1998) concluded that Leadership mainly affects the systems dimensions of Process Management, Faculty and Staff Focus, Strategic Planning, and Knowledge Management, rather than the more outcome-related dimensions of Student, Stakeholder, and Market Focus and Results. The researchers concluded that leaders' major influence was on designing effective systems and processes for achieving results, rather than on results directly. Process Management was the one dimension with a significant and strong direct effect on both Student, Stakeholder, and Market Focus and Results; this finding suggests process improvement's importance to achieving quality and

supports Deming's argument that the majority of quality problems are due to the structure of processes rather than employee motivation or ability. Further, Winn and Cameron's results showed Process Management to be the one dimension having a significant and meaningful relationship with the two outcomes (Student, Stakeholder, and Market Focus and Results) and Leadership.

Winn and Cameron (1998) found a significant relationship between Process Management, Faculty and Staff Focus, Strategic Planning, and Knowledge Management, but there was an order to the relationships, as shown by the direction of the arrows in the diagram. Student, Stakeholder, and Market Focus was significantly affected by Strategic Planning and Process Management and, to a lesser degree, by Knowledge Management. A weaker but still significant relationship existed between Knowledge Management and both of the outcome dimensions, as shown by the dotted line. Knowledge Management was most significantly correlated to Leadership and Strategic Planning (Winn & Cameron).

In another study within business, Samson and Terziovski (1999) examined the relationship between the Baldrige categories for business and performance outcomes. In their study, Leadership, People Management (called Faculty and Staff Focus in the education criteria), and Customer Focus (called Student, Stakeholder, and Market Focus in the education criteria) were the strongest predictors of performance.

Evans and Jack (2003) studied 20 possible correlations and linkages among the Baldrige categories. They concluded that employee satisfaction correlated significantly with process performance and product quality; in other words, increased employee

satisfaction leads to higher performance. Evans and Jack also found that process performance correlated significantly with market quality. Customer satisfaction correlated with and was dependent on product quality, service quality, and work system improvement. Work system improvement, unsurprisingly, also correlated significantly with financial performance.

Walpole and Noeth (2002) conducted a meta-analysis of the literature and empirical research of schools and school districts using the Baldrige Criteria as part of their reform strategy. They concluded that it is not easy to implement the criteria successfully and that doing so involves a long-term perspective and a focus on changing core processes, especially teaching and learning. According to researchers, elements of the Baldrige Criteria should be included in teacher performance expectations to have the greatest impact on teaching and learning. Hackman and Wageman (1995) found that in schools where process quality improvements affected teaching and learning, the building principal led the improvements, and process quality improvement was included in teacher evaluations.

Walpole and Noeth (2002) noted that information about the effects of Baldrige implementation was limited; at that time, there were limited empirical data that gave details about how, why, or in which contexts Baldrige implementation can succeed. The researchers noted that detailed information and comprehensive data are essential for successful implementation of a Baldrige-based reform initiative and that many reform efforts fail when schools do not use data in decision making and do not change core teaching and learning processes.

Detert, Kopel, Mauriel, and Jenni (2000) studied 10 high schools over a 4-year period to follow their implementation of total quality principles. They found that teachers most often separated process quality improvement from teaching. When teachers did seek improvement in the classroom, they focused on discipline and classroom management processes rather than on teaching and learning. Detert et al. collected substantial data on core processes in the respective districts, but data were not available to classroom teachers for decision making. The researchers also found that there was no professional development to accompany the desired process changes. Most districts did not have resources to provide training that was not voluntary and/or scheduled outside the school day, which reduced participation.

Corace (2000) used a self-reported 62-item questionnaire correlated to student outcomes to examine implementation of Baldrige-based school reform. The questionnaire broke responses down by teaching level, years of teaching experience, and years of experience within a reform initiative that had been in place for 8 years. Corace found that teachers who had more than 2 years of involvement in their district's school reform initiative reported higher levels of importance and application of Baldrige Criteria; additionally, elementary school teachers attached higher levels of importance to implementing and applying the criteria than secondary school teachers did. Results also included positive correlations between years of involvement in quality school reform and student attendance, and between years of teaching and all student outcomes at the secondary level.

2.5.5 Relationship of Baldrige in Education to the QSM

While the Quality Schools Model is a *strategy* and *structure* for systemic education reform, the Baldrige in Education criteria are *tools* for measuring alignment with quality principles. The Baldrige criteria for measuring performance excellence represent a comprehensive and holistic set of measures that can be used to examine individual school and school system reform efforts from a quality perspective regardless of differences in reform structure from one initiative to another. The four components of the Quality Schools Model encompass the core values of Baldrige in Education that were discussed in detail earlier in this chapter, The correlations between Baldrige core values and QSM components are shown in the table below.

Table 2.2

Correlation of Baldridge Core Values with QSM Components

Quality Schools Component	Baldrige Core Values
Leadership	• Visionary leadership • Valuing faculty, staff and partners • Management by fact • Systems perspective • Focus on results and creating value
Shared Vision	• Valuing faculty, staff and partners • Focus on the future • Focus on results and creating value • Learning centered education • Social responsibility
Balanced Instruction Model	• Learning centered education • Social responsibility • Focus on results and creating value • Organizational and personal learning • Valuing faculty, staff, and partners
Continuous Improvement	• Agility • Focus on the future • Managing for innovation • Management by fact • Social responsibility • Focus on results and creating value • Systems perspective

While the Baldrige Criteria can and have been used to assess implementation of the Quality Schools Model as a whole, this study focuses primarily on the criterion of Staff Focus as a part of the Quality Schools Model.

2.6 The Baldrige Criterion of Staff Focus

As described in the 2006 Education Criteria for Performance Excellence, Staff Focus "examines how your organization's work systems and faculty and staff learning and motivation enable all faculty and staff to develop and utilize their full potential in alignment with your organization's overall objectives, strategy, and action plans" (p. 25). This section focuses on the challenges presented by reform to providing effective professional development, the agreement in the literature about what constitutes effective professional development, and the growing body of empirical studies showing that professional development can positively impact teacher practices and student achievement.

Systemic reform requires more than the "training model" of the past (Little, 1993, p. 1) in which districts or schools "hire consultants, give workshops, invite speakers, and create courses that teach district and school personnel how to enhance their repertoires" (Hawley, 2007, p. 99). The breadth of reform encompassed in systemic reform, and the unprecedented nature of federal reform mandates, present new complex challenges that require a different approach to professional learning for teachers.

Little (1993) outlines five types of reform that systemic approaches entail. First are reforms in subject matter teaching. The focus on curriculum standards and content, as well as the teaching methods best utilized in order for students to master curriculum

standards, present one very broad, yet deep, area of reform for teachers. Reforms centered on eliminating achievement gaps between diverse student populations is a second area of reform. NCLB's requirement that students in all subgroups meet Adequate Yearly Progress reflect this kind of educational reform. Third, are reforms in the kinds and uses of student assessment. Teachers are challenged with understanding the advantages, disadvantages, and appropriate uses for many difference kinds of assessments including, for example, authentic, formative, summative, and standardized. Assessment results, particularly those of standardized assessments, are being used to judge the effectiveness of instruction as the classroom, school, district, and state level. A fourth kind of reform is that of the reorganization of schooling, frequently referred to as "school restructuring." Moving from a grade level organization for schooling to organization based on levels of student proficiency is one example of this kind of restructuring. The organization of high school students into teams of "smaller learning communities" is another. Fifth are reforms in the professionalization of teaching focused on teacher certification and licensure at the state level, and on mentoring and career opportunities at the local level.

2.6.1 Components of effective professional development

Educational literature regarding professional development "focuses on the improvement of student learning through the improvement of the skill and knowledge of educators" (Elmore, 2002). The literature identifies a broad consensus regarding the context, process, and content of effective professional development. The National Staff Development Council (NSDC) developed standards for professional development in

1995 (Sparks and Hirsch, 1997; Sparks,1993).These standards encompass the themes evident in the literature addressing high quality professional development.

The NSDC's Context Standards advocate staff development organized through learning communities, aligned with the school and district goals, guided by school and district leaders, and supported with adequate resources. Borko (2004) contends that "research provides evidence that strong professional learning communities can foster teacher learning and instructional improvement" (p. 6). The QUASAR project (Quantitative Understanding: Amplifying Student Achievement and Reasoning) studied six site-based professional development programs aimed at improving middle school mathematics instruction in economically disadvantaged neighborhoods. Stein, Silver, and Smith (1998) found that schools that had developed strong learning communities were more likely to have teachers who increased their use of cognitively challenging tasks, and whose students improved their problem solving abilities. In a five-year case study of nearly 900 teachers in two states, McLaughlin and Talbert (1993) concluded,

> Strong professional community provides context for sustained learning and developing the profession. Effecting and enabling the teacher learning required by systemic reform cannot be accomplished through traditional staff development models – episodic, decontextualized injections of "knowledge" and technique. The path to change in the classroom core lies within and through teachers' professional communities: learning communities which generate knowledge, craft new norms of practice, and sustain participants in their efforts to reflect, examine, experiment, and change. (p. 19)

Professional learning communities can take the form of peer observation, discussion groups, collaborative lesson planning, mentoring, and outside networks. Research has shown that schools that are successful in reform efforts are often supported by external structures or networks that influence teacher professional development (Little & McLaughlin, 1991; Darling-Hammond & McLaughlin, 1995; Leberman & Grolnick 1996).

Providing the necessary resources of time and money is a frequent challenge for district and schools that seek to implement a learning community approach to professional development. Altering school schedules, organizing planning periods by grade levels or department areas, and reassigning staff in order to provide release time are offered in the literature as ways of finding additional time for professional learning (Collins, 1998; Darling-Hammond, 1999). Providing for these structures requires district and school leadership committed to professional development and in working to fine-tune the specific process for the design and implementation of effective professional development.

The NSDC's Process Standards emphasize that student performance data, particularly that which identifies gaps in student learning, should drive the content of professional development and the evaluation of its effectiveness. The eight schools that were recognized by the National Award Program for Model Professional Develop during the first two years of the competition (1996-1997 and 1997-1998) had in common that "in each of these professional development programs, what teachers learn is driven by student needs" (WestEd, 2000). While improvement in indicators of student learning is

the ultimate objective of professional development, measurement of other factors that affect student learning can inform the planning, implementation, and improvement of professional development. Guskey and Sparks (1991) advise assessing a variety of factors connected to student learning including school culture and teachers' attitudes about student learning. While assessing teachers' attitudes can inform professional development planning, Guskey (1986) advocates that practice changes attitudes, rather than attitudes changing practice. His theory of attitude and perceptual change in teachers maintains that if teachers can see a positive impact on student learning of specific instructional practices, they will reflect on, and perhaps change, their values and attitudes. An understanding of adult learning is critical for effective professional development (Merriam and Caffarella, 1999; Howe, Strauss, & Matson, 2000). While the literature advocates matching professional develop to specific student and teacher needs, it focuses the content of professional development on three domains of "the knowledge necessary for successful teaching" (Elmore, 2000).

The NSDC's Content Standards identify content knowledge, research-based instructional strategies, and classroom assessments as the most important content for professional learning. Elmore proposes three domains as the basis for successful teaching and the focus for professional development:

> (1) deep knowledge of the subject-matter (e.g., history and mathematics) and skills (e.g., reading and writing) that are to be taught; (2) expertise in instructional practices that cut across specific subject areas, or "general pedagogical knowledge"; and (3) expertise in instructional practices that address the problems

> of teaching and learning associated with specific subjects and bodies of knowledge, referred to as "pedagogical content knowledge." (p. 17)

Newmann, Marks, and Gamoran's 1996 study of more than 2000 students in twenty-three schools illustrates the complex skills and knowledge possessed by teachers whose students demonstrate high levels of learning. The researchers found

> higher levels of achievement on complex performance tasks for students who experienced what these researchers termed "authentic pedagogy" – instruction focused on active learning in real-world contexts calling for higher-order thinking, consideration of alternatives, extended writing, and an audience for student work. (in Darling-Hammond, 2006, p. 646)

Helping teachers to acquire the knowledge and skills that lead to high levels of learning for all students is the challenging work of professional development. The literature emphasizes the importance of teachers improving their content area knowledge (Darling-Hammond, 1992) and instructional approaches, and understanding the theories and principles underlying such approaches (WestEd, 2000). Professional development, while responsive to individual teachers' needs and attitudes, should be focused on the core problems of teaching and learning (Corcoran, 1995).

In addition to the context, process, and content recommended for effective professional development, Little (in Fullan, 2001) suggests qualities for professional development that "stands up to the complexity of reform" (p. 153). Little outlines the following six principles:

1. Professional development will offer meaningful intellectual, social, and emotional engagement with ideas, with materials, and with colleagues both in and out of teaching.
2. Professional development will take explicit account of the contexts of teaching and the experience of teachers.
3. Professional development will offer support for informed dissent.
4. Professional development will place classroom practice in the larger contexts of school practice and the educational careers of children.
5. Professional development will prepare teachers to employ the techniques and perspectives of inquiry.
6. Professional development will ensure bureaucratic restraint and a balance between the interest of individuals and the interest of institutions.

While the literature is rich with suggestions for how to design and implement professional development that is of high quality, there is much less empirical evidence that such professional development will result in improvement in teacher practice or student achievement (Elmore, 2000).

2.6.2 Research about impact of professional development

Borko (2004) maintains that most of the research conducted to assess the impact of professional development on teacher practice and student learning can be categorized as "Phase 1 research" (in Banilower, Heck, & Weiss, 2007, p. 377). Phase 1 research is limited to assessing the impact of professional development on teachers at individual sites. He advocates for more Phase 2 research, studying a particular professional development at multiple sites with multiple facilitators and comparing the results, and Phase 3 research comparing multiple programs at multiple sites.

Snow-Renner and Lauer (2005) acknowledge the challenge of attributing improvements in student learning or teacher practice to specific professional development opportunities. Frequently, professional development is one part of systemic reform and its impacts are therefore difficult to isolate. Additional challenges for empirical research include that professional development can vary greatly in quality, and that student achievement measures may not be easily aligned to the learning goals of professional development (Snow-Renner & Lauer, 2005).

In 2005, the Mid-continent Research for Education and Learning (McRel) conducted a meta-analysis of the impact of professional development on teacher practice and student learning (Snow-Renner & Lauer). This analysis sought to answer the question, "What is the influence of standards-based professional development on teacher instruction and student achievement?" (p. 3). The research included 54 articles that addressed 37 major studies and included five studies using quantitative quasi-experimental designs, 10 mixed methods studies, 13 quantitative studies without

comparison groups, and nine qualitative studies. The researchers concluded that time, the content of, and the design of professional development are all relevant for positively affecting teacher instruction. "Overall, the data suggest that deep changes in teacher instruction, like those required by reformers, take considerable time" (Snow-Renner & Lauer, 2005, p. 6). A study evaluating the impact of professional development conducted by the Merck Institute for Science Education (Corcoran, McVay, & Riordan, 2003) found a significant correlation between the use of reform-based teacher instruction and teachers' participation in 80 or more hours of professional development during the previous year. Supovitz and Turner (2000) and Banilower, Heck, and Weiss (2007) assessed the impact on teacher practice of time spent in professional development through the National Science Foundation's Local Systemic Change (LSC) initiative. While teachers who spent at least 80 hours in professional development were more likely to use inquiry-based teaching practices in science (Supovitz & Turner), subsequent increases in teacher use of inquiry-based practices weren't observed until after about 160 hours (Banilower, Heck, & Weiss).

Changes in teacher practice depend also on professional development that is focused on content knowledge and instructional strategies. Porter et al. (2000) found a positive effect on teachers' use of higher order teaching strategies as a result of participation in focused professional development provided through the Eisenhower Professional Development Program in mathematics and science. In a study using data from a survey of California elementary mathematics teachers, Cohen and Hill (2000) found that teachers who had participated in professional development focused on specific

curricula increased their use of reform-oriented teaching practices. They concluded that "the content of teachers' professional development makes a difference to their practice (p. 10).

In addition to investing significant time in professional development and in having a clear focus for the learning, research suggests that professional learning that is collaborative (Porter, et al., 2000) and that includes a "critical mass" of a school's instruction staff (Corcoran, McVay, & Riordan, 2003) results in improvement to teachers' instructional practices. Collaborative learning can be facilitated through external structures or networks which are often an element in schools that are successful in reform efforts

(Little & McLaughlin, 1991; Darling-Hammond & McLaughlin, 1995; Leberman & Grolnick, 1996). However, the number of staff within a school engaged in professional development is also relevant. Data from the Merck Institute for Science Education study (Corcoran, McVay, & Riordan, 2003) found an increase in student performance only when 78% or more of a school's teachers participated in the professional development.

Improving student achievement is, ultimately, the objective of professional development. The McRel study, however, "indicated a mixed relationship between standards-based professional development and student achievement" (Snow-Renner & Lauer, 2005, p. 12). While studies have indicated a positive effect on student learning of teachers' professional development, often findings vary depending on the achievement measure used (Devlin-Schere, et al., 1997) or are inconsistent across grade levels (Van Haneghan, Pruet, & Bamberger, 2004; Wiley & Yoon, 1985).

The literature about professional development for reform provides specific guidance to both practitioners and policy makers for designing and supporting the professional learning of teachers and administrators. Further, it provides many hypotheses that could be subjected to empirical testing (Elmore, 2002).

2.7 Chapter Summary

This chapter reviewed the literature related to the Quality Schools Model including Educational Reform, Systems Theory, Alaska Educational Reform, The Baldrige Criteria, The Quality Schools Model, and Staff Focus. The next chapter specifies the methodology that was utilized for this study.

CHAPTER 3: METHODOLOGY

The purpose of this concurrent mixed methods study is to describe the implementation of the Quality Schools Model in three rural Alaskan school districts by examining the importance and practice of the Baldrige in Education Criteria as perceived by faculty, staff, and community members. In this study, I used a questionnaire administered to school staff to measure the importance and practice of the Baldrige Criteria of Staff Focus, and to explore the relationship between respondents' demographic characteristics and their responses. At the same time, the four members of the research cohort conducted semi-structured interviews of school staff and community members to describe implementation of the Quality Schools Model.

In this section, I outline the methodology for this study according to the following organizational framework: Research Questions; Theoretical lens and Research Approach; Population of the Study; Questionnaire Development and Administration; Analysis of Quantitative Data; Interviews; and Triangulation. Elements of the methodology design and implementation that were shared by the four cohort members will be identified through the use of "the research cohort" or "we." Methodology elements that I conducted independently will be identified through the use of "I."

3.1 Research Questions

Four research questions with supporting hypotheses served as the basis for this study.

Research Question 1. To what extent do administrators, staff, and community members perceive Staff Focus to be important as a part of the Quality Schools Model in their schools?

Hypothesis 1.1. Certificated staff and classified staff differ in the extent to which they perceive Staff Focus factors to be important in their schools.

Hypothesis 1.2. Respondents with more educational work experience differ from those with less educational work experience in the extent to which they perceive Staff Focus factors to be important in their schools.

Hypothesis 1.3. Respondents with more experience in the Quality Schools Model differ from those with less experience in the Quality Schools Model in the extent to which they perceive Staff Focus factors to be important in their schools.

Research Question 2. To what extent do administrators, staff, and community members perceive Staff Focus to be in practice as a part of the Quality Schools Model in their schools?

Hypothesis 2.1. Certificated staff and classified staff differ in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Hypothesis 2.2. Respondents with more educational work experience differ from those with less educational work experience in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Hypothesis 2.3. Respondents with more experience in the Quality Schools Model differ from those with less experience in the Quality Schools Model in the extent to which they perceive Staff Focus factors to be in practice in their schools.

Research Question 3. Are there statistically significant differences between the extent to which respondents perceive Staff Focus to be important and the extent to which they perceive Staff Focus to be in practice as part of the Quality Schools Model in their schools?

Hypothesis 3.1. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for certificated staff and non-certificated staff.

Hypothesis 3.2. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for respondents with more and less years of educational work experience.

Hypothesis 3.3. The difference between the extent to which respondents perceive Staff Focus factors to be important and the extent to which they perceive Staff Focus factors to be in practice vary for participants with greater than and fewer than 3 years of experience with the Quality Schools Model.

Research Question 4. What are the relationships among the Baldrige Criteria that describe the Quality Schools Model?

Hypothesis 4.1. The variable of Staff Focus has a direct effect on Results as proposed by the Baldrige Criteria theoretical model.

Hypothesis 4.2. The variable of Staff Focus has a direct effect on Strategic Planning, Student, Stakeholder, and Market Focus, and Process Management as proposed by the Baldrige Criteria theoretical model.

Hypothesis 4.3. The variable of Staff Focus is indirectly affected by Leadership as proposed by the Baldrige Criteria theoretical model.

3.2 Theoretical Lens and Research Approach

Creswell (2003) identified four schools of thought, or paradigms, that can be used to guide researchers as they determine the best strategies of inquiry and methods to use in addressing research questions: postpositvism, constructivism, advocacy/participatory, and pragmatism (p. 6). Postpositivism relates closely to the scientific method whereby researchers seek to identify the causes that influence outcomes, and to reduce broad ideas into a discrete set of ideas to test. Constructivists, conversely, set broad, general, open-ended research questions that value the "meanings others have about the world" (Creswell, p. 9) and utilize qualitative research approaches. Researchers who employ an advocacy/participatory lens approach their qualitative research with an action agenda for reform, seeking to give voice to those who have been marginalized or disenfranchised (Creswell, p. 10). Finally, pragmatists consider all possible approaches to understanding a problem and consider the research problem, rather than commitment to a quantitative or qualitative research approach, as most important. "Pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as to different forms of data collection and analysis" (Creswell, p. 12). The lens of pragmatism, and a mixed-methods approach to research, guides this study.

There is growing consensus among researchers that qualitative and quantitative research can complement each other (Gall, Gall and Borg, 2007). Johnson and Onwuegbuzie (2004) stated that, "...researchers should collect multiple data using

different strategies, approaches, and methods in such a way that the resulting mixture or combination is likely to result in complementary strengths and non-overlapping weaknesses" (p.18).

Research strategies which integrate different methods "encourage us to probe the underlying issues assumed by mixed-method" and "produce better results in terms of quality and scope" (Sydenstricker-Neto, 1997, p. 4). Maxwell argued that the complementary use of qualitative and quantitative approaches

> provides a greater range of insights and perspectives and permits triangulation or the confirmation of finding by different methods, which improves the overall validity of results, and makes the study of greater use to the constituencies to which it was intended to be addressed. (International Food Policy Research Institute, 1998, p. 3)

The research cohort selected a mixed-methods approach for this research for several reasons. We sought to describe implementation of the Quality Schools Model as comprehensively as possible recognizing the unique cultural perspectives within each setting, while acknowledging our limitations given the remote geographical setting of each research site. The quantitative component of the research design facilitated reaching the largest possible number of participants and focusing specifically on components of the QSM that are familiar to school staff. The qualitative component allowed both the elaboration of results from the quantitative component and the inclusion of participants for whom the quantitative component was not appropriate given its school-specific content. Further, while the research sites are similar in many ways, they are unique both

culturally and geographically. Through the qualitative component of the research design, we intended to provide more opportunity for that uniqueness to be reflected in the data than might occur with strictly quantitative methods.

Researchers use the term *complementary* to describe a mixed-methods approach whereby "the results of one method [are] used to elaborate, enhance, illustrate, or clarify the results from another method" (McMillan and Schumacher, 2001, p. 543). In order for a complementary approach to be truly beneficial to the research process, it cannot simply include "add-on" components. Complementarily "seeks elaboration, enhancement, illustration, or clarification of the results from one method with the results from the other method" (Greene et al., 1989, p. 257). Identifying mixed-methods research as complementary, however, does not prescribe specific research procedures.

The cohort members chose a concurrent nested strategy for the design of this study's methodology (Creswell, 2003, p. 218). As Creswell explained, "Unlike the traditional triangulation model, a nested approach has a predominant method that guides the project. The data collected from the two methods are mixed during the analysis phase of the project" (p. 218). The research cohort's predominant method for this study was quantitative with data gathered through a questionnaire administered to school staff. Our secondary method for the study was qualitative with data gathered through interviews with school staff. We conducted the data analysis for each method separately and then integrated the two kinds of data in order to answer the research questions.

3.3 Population of the Study

The research cohort selected three rural Alaskan school districts as the focus of the study because they had implemented the Quality Schools Model district-wide for at least four years. The superintendent of each district agreed to cooperate in the study.

The Bering Strait School District is a Rural Education Attendance Area (REAA) located on the west coast of Alaska. The district serves fifteen widespread and diverse villages, and has a total enrollment of approximately 1700 students. The area includes villages on the Seward Peninsula and Norton Sound as well as on St. Lawrence and Little Diomede Islands. The distance between the furthest two schools in the district is approximately 350 miles. Many children in the communities of Gambell, Savoonga and Diomede speak Siberian Yup'ik as their primary language. The largest school, Savoonga, is located on St. Lawrence Island and has 219 students and 21 certified staff members. Overall, the district has 174 classroom teachers, fifteen principals and five assistant principals. At the district office there are seven certified support positions, four directors, five coordinators and the superintendent. The district is governed by an eleven member school board. Close to 100% of the students are Alaska Native and over 80% of the district is limited English proficient. 86% of the students are eligible for free or reduced lunch. The Bering Strait School District began its implementation of the QSM in 2002 and was the subject of a case study by Reagle (2007) which focused on community voice in the implementation process of the QSM.

The Kuspuk School District is an REAA with ten schools in eight villages serving approximately 414 students. The district is located in western Alaska along the

Kuskokwim River between the villages of Stony River and Kalskag. The district covers over 12,000 square miles. The school district offices are located in Aniak, which is about 320 miles west of Anchorage. The regional economy is based primarily on subsistence fishing, hunting, and gathering. Most of the district's population is Yup'ik or Athabascan. The majority of students has limited English proficiency (90%) and is low income (80%). Kuspuk School District first moved to implement the model in 2003.

The Lake and Peninsula Borough School District serves 380 students in fourteen village K-12 schools. The district's fourteen schools are staffed by 42 classroom teachers for a pupil-teacher-ratio of 9:1. In addition, 4 special education teachers, 3 specialists, 5 principals and 4 district level administers make up the certified staff. The District is located on the Alaska Peninsula and is roughly the size of West Virginia. Ninety percent of the district's students are Alaska Native (Alutiiq, Athabascan and Yup'ik) and about 70% of these students are eligible for free or reduced lunch. The district is governed by a seven member board with three members from the south's seven villages, 3 from the seven north area villages and one member at large. The economy of the region is based on commercial fishing with mineral industry beginning to play a more significant role in this area. The first stage in implementation of the Quality Schools Model occurred in the fall of 2001. At the time of this study, the superintendent of Lake and Peninsula School District was one of the members of the research cohort.

3.4 Questionnaire Development and Administration

3.4.1 Participants

We invited all administrators, teachers, and support staff with district email accounts in the three target districts to complete the questionnaire. This included a total of 538 potential respondents as outlined in Table 3.0. Actual response numbers and rate are provided in the Analysis of Quantitative Data section of this chapter.

Table 3.0

Potential Respondent Data

District	Total N	Certificated N	Classified N
BSSD	387	208	179
LPSD	74	57	17
KSD	77	43	34
TOTALS	538	308	230

Total Possible N = 538

3.4.2 Questionnaire Development

Gall et al. (2007) made a distinction between the terms *survey* and *questionnaire*. Using their definition, *survey* is the more general label to describe mixed-method research in which researchers use both a questionnaire and interviews to gather data. The questionnaire, in this case, is the quantitative data-gathering tool. The development of the questionnaire for this research had three stages. In the first, the research cohort studied 19 questionnaires for measuring school improvement and educational reform. This review

included six questionnaires from the North Central Regional Educational Laboratory (2005), two from the National Center for Education Statistics (2004), four written for the Re-Inventing Schools Coalition and designed to measure implementation of the four components of the QSM (Cope & Crumley, 2003), two from the Learning Center (2002), and one each from the Southern Minnesota Initiative Foundation (2003), the National Education Association (2004), the National Institute of Standards and Technology (2005), and DuFour, DuFour, Eaker, and Many (2006). Following this review of existing questionnaires, the members of the cohort wrote 148 statements, each of which linked with one of the four QSM components. We planned to align each statement with one of the seven Baldrige in Education criteria.

Next, we piloted the initial survey by asking a group of respondents to complete a categorical analysis of the items. The participants were 22 teachers and administrators who worked in districts that used the QSM and who were attending QSM training. In the categorical analysis, these participants coded each of the 148 statements to one of the seven Baldrige categories to which they thought the statement most closely aligned. Unfortunately, the analysis from the activity showed little consistency in respondents' coding decisions. After further study of the questionnaire items, the members of the cohort concluded that the questions addressed the implementation of very specific elements or processes related to the QSM of educational reform, and the language used in these questions was not general enough to obtain the desired alignment with the Baldrige in Education Criteria. We also determined that the respondent group as a whole did not have sufficient familiarity with the Baldrige Criteria to respond to the statements in a

consistent manner, as we had not placed any control on their level of experience with either the QSM or Baldrige Criteria.

We then searched for questionnaire tools written to measure educational reform using Baldrige Criteria. Our premise was that one could use the Baldrige Criteria to measure any reform effort, including the implementation of the QSM in Lake and Peninsula, Kuspuk, and Bering Strait School Districts. In addition, another QSM school district (Chugach School District) had already demonstrated the use of the Baldrige Criteria to measure its implementation of the QSM. We identified two existing questionnaires (Dale, 2003; Miller, 1996) designed to measure the Baldrige Criteria and obtained permission for their use.

The first of the Baldrige-related questionnaires, The School District Quality Profile, was designed by Miller (1996) to allow school districts to self-assess quality practices derived from the Malcolm Baldrige National Quality Award Criteria. The purpose of Miller's research was to create an instrument that could provide a baseline measurement for school improvement. The instrument she created includes 50 statements with a six-point Likert scale. She determined the content validity of the School District Quality Profile from four sources of data: responses from expert reviewers, input from graduate students, responses from questionnaire respondents, and results from the administration of the questionnaire. She used Cronbach's alpha to analyze reliability by category, subcategory, and statement. Five of the seven Baldrige categories had acceptable alpha correlations (.7 or higher). Of the 16 subcategories that contained two or more items, two had unacceptable coefficients (less than .5) and four that contained only

two items had coefficients that indicated a need for improvement (less than .6). Miller recommended (a) refining the questionnaire in order to establish clear and concise content and to reduce educational jargon; (b) ensuring that each subcategory contained at least two statements; and (c) reviewing items in the categories of Leadership and Strategic and Operational Planning that had coefficients of less than .7.

The purpose of the second questionnaire was to assess perceptions of school staff concerning the importance and existence of the Baldrige Criteria (Dale, 2003). Participants in the study for which this questionnaire was developed were 378 administrators and staff of seven probationary Tennessee schools prior to the schools' involvement in a Baldrige Criteria pilot program. The questionnaire contained 70 statements. Participants indicated the degree to which they considered each statement to be important, as well as the degree to which the corresponding concept was in existence in their schools. The same 5-point Likert scale was used for both the "importance" and "existence" responses. The researcher established content validity for the questionnaire based on feedback from expert reviewers who identified the Baldrige category to which each statement related. Two internal consistency estimates of reliability were computed for the perception and existence scales. The Spearman-Brown corrected correlation had a value of .9191 and the coefficient alpha had a value of .93, both indicating sufficient reliability.

In developing the questionnaire for this study, the members of my cohort coded the 120 items from the Dale (2003) and Miller (1996) questionnaires to the seven Baldrige categories and 28 subcategories. Although these statements had been previously

coded in the Miller questionnaire, changes over the last 10 years in the Baldrige Criteria and the content of the categories necessitated a thorough recoding using a more current version of the criteria. For the purpose of this questionnaire and research, we adopted the 2006 Baldirge Education Criteria as a standard. During the coding process, we discussed items for which there was not agreement in terms of the category and subcategory to which the items most closely related. With the objective of equalizing the number of items relating to each Baldrige subcategory, each cohort member focused on at least one category in order to eliminate items from overrepresented subcategories and to write new items for underrepresented subcategories. Cohort members used the following "Guidelines for Designing a Questionnaire" (Gall et al., 2007, p. 233) to analyze existing items and to write new items:

1. Do not use technical terms, jargon, or complex terms that respondents may not understand.
2. Avoid terms like *several, most,* and *usually*, which have no precise meaning.
3. State each item in as brief a form as possible.
4. Avoid negatively stated items, which are likely to be misread by respondents.
5. Avoid "double-barreled" items that require the subject to respond to two separate ideas with a single answer.
6. Avoid biased or leading questions.

We then collaboratively focused on each category in order to reduce the number of items per Baldrige category to no more than 15. Items containing technical terms or

more than one key concept were revised further. This resulted in a questionnaire with 84 items.

We developed two Likert-type scales in order to assess participants' beliefs about the importance of Baldrige concepts and the degree to which they saw the concepts in practice in their schools or districts. Szulanski (2003), in his research on transfer of business practices and knowledge, found that there could be large gaps between beliefs about or expected use of a practice and what actually transferred or occurred. He found that "routinized use of causally ambiguous knowledge was often accompanied by gaps between [expected] and actual patterns of use" (p. 26). Further, he found that where there was no causal ambiguity (meaning there was a complete understanding by the source of what was to be copied or replicated), the ideal description of the practice corresponded closely to actual practice or reality. But when the functioning of the exemplar being replicated or transferred was not well-understood, causal ambiguity existed; the higher the causal ambiguity, the greater the gap between the description of the ideal and reality. Successful transfer of a practice hinged on accurately communicating relevant information that allowed recipients to reconstruct every important detail of the necessary activities. Because it is possible that causal ambiguity exists regarding the transfer of the QSM, we included a belief as well as a practice scale for each item on the questionnaire. The belief response scale for this questionnaire included; *strongly disagree*, *disagree*, *agree*, and *strongly agree*. The practice response scale included *never*, *occasionally*, *frequently*, and *always*.

For the questionnaire design, we chose a 4-point Likert-type scale for responses, without a neutral option. According to Zhao (2003), a neutral or "no opinion" option may discourage cognition. The need for a neutral response varies with context, depending on whether questions are factual or attitudinal. Respondents may choose a neutral response on an attitudinal survey simply because they have not thought about their opinion. When there is not a neutral choice, respondents must become engaged in order to select a positive or negative response to correspond with their opinion. A neutral or "don't know" response is more clearly needed when questions are factual and respondents might legitimately not know the answer (Walonick, 2004). Nowlis, Kahn, and Dhar (2002) found, in controlled experiments with undergraduate university students, that the possibility of response bias resulting from a lack of a neutral response option can be controlled if respondents are able to opt out of individual questions or the whole survey at any point. In a Web-based questionnaire, one can allow respondents to opt out at any point by simply closing their Internet browser to cancel their responses.

Once the questionnaire was complete, we calculated its readability using the algorithm for the Flesch-Kincaid grade level. Readability tests rely on the number of words per sentence and the number of syllables per word; they do not measure factors related to text layout and design or the background knowledge of the individuals who approach the task of reading the text. Nonetheless, readability scores provide a prediction of the reading ease of a document. The Flesch-Kincaid score is a measure of the level of education required to understand the content of a document. The Flesch-Kincaid readability score for the questionnaire was 10th grade, with 34 out of 98 sentences

containing 12 or fewer words and 9 sentences containing more than 27 words. The readability for the companion Informed Consent document was Grade 8.6, with 13 out of 34 sentences shorter than 12 words and 3 long sentences containing more than 27 words. The readability of the survey directions (composed of 11 sentences) was 9th grade.

3.4.3 Expert Review

We asked four Baldrige-trained Examiners to serve as expert reviewers in order to establish content-related evidence of test validity for the questionnaire. Baldrige Examiners serve as reviewers of organizations that have applied for the Baldrige National Quality Award. Examiners participate in a four-day training session that prepares them to review, write an analysis of, and score written applications for the Award. Additionally, they complete a 30-40 hour case study evaluation prior to attending the training. The role of the expert reviewers is described by Gall et al. (2007):

> Content-related evidence typically is determined systematically by content experts, who define in precise terms, the universe of specific content that the test is assumed to represent, and then determine how well that content universe is sampled by the test items. (p. 196)

The expert reviewer assessed each questionnaire statement in terms of its alignment to the Baldrige category and subcategory to which it was assigned. The group also provided written feedback on those items that did not align to the Baldrige category or subcategory. We then deleted, revised, or added survey items in response to this analysis from the expert reviewers and results of a field pre-test.

3.4.4 A Comparison of Web-Based versus Paper Questionnaires

The research cohort decided to electronically administer the questionnaire through the Internet after considering the pros and cons of this form of questionnaire delivery. While some research shows that web based surveys often have a lower return rate than mail surveys (Solomon, 2001; Tomsic, Hendel, & Matross, 2000), other research (Kiernan, 2005) indicates that the web-based method is superior to the paper and pencil approach. Yun, Yun, and Trumbo (2000) found, when examining data from a survey administered to members of a professional association using three modes of delivery (postal mail, e-mail and Web-based) that the Web-based delivery did not bias results. Cheskis-Gold, Loescher, Shepard-Rabadam, and Carrol (2004) provided a concise summary of the pros and cons of using web-based technology to administer a questionnaire, shown in Table 3.1.

Table 3.1

Advantages and Disadvantages of Web-based Surveys (Cheskis-Gold, et al., 2004)

Advantages	Disadvantages
Savings in printing, postage, data entry.	Need programming and IT expertise.
No data entry errors from hand-entry. (However, poor programming could lead to lost data.)	Certain populations are not comfortable with using personal computers.
Shortened timeframe to administer surveys (3 weeks with web surveys, vs. 6 weeks or more with paper surveys).	Must have accurate email lists.
Easier and cleaner to provide skip patterns or survey sections customized to different respondent populations.	Web surveys are not recommended for email software that doesn't support web access. Must be able to click on a .url provided in an email and to have it bring respondent to a web page.
Almost immediate access to data for analysis.	There may be problems finding software that is appropriate for both PCs and Macs, or developing surveys that run on both platforms.
Can easily link to background data, if appropriate (e.g., gender, yrs. of service, etc).	Data provided via a web survey are not *anonymous*, although the survey administrators may choose to keep the results *confidential.*

After considering that respondents were very geographically disbursed and had school access to technology, we determined that the targeted population of school district employees' regular use of e-mail and the Internet would overcome limitations such as a lack of familiarity with the media that were cited in the research that found that a mail survey led to a higher level of return. A second consideration in this decision was the expediency of the electronic format. The remote location of many of the schools would likely cause delays and lapses in traditional mail communication. Finally, we felt that the motivation to complete the questionnaire would be greater with a Web-based approach because we would offer the incentive of a gift card to randomly selected completers. A Web format offered quick gratification for respondents when they learned they would receive a gift card. We hoped this would then encourage others at the same work site to complete the questionnaire.

As Cheskis-Gold, et al. (2004) noted, the development of a Web-based questionnaire requires some specialized skills in technology. Two of the researchers in this cohort had previous Web-based survey technology experience (Cope and Crumley, 2003) which assisted in the use of a Web-based survey for this research

Our primary goal in selecting a Web-based questionnaire was to get respondents to answer all questions as accurately as possible. Consequently, we focused on making the questionnaire-taking process streamlined and easy, with minimal distractions. Several researchers and technology experts have provided guidance related to the design of Web-based surveys (Archer, 2003; Crawford, McCabe, & Pope, 2005; Gale, 2000). Crawford

et al. said, "Screen design is arguably where the most deviation from known data collection methodologies exists" (p. 47) and used that premise to create standards for four categories related to Web-based surveys: screen design, questionnaire writing, respondent communications, and processes. Tufte (2001) advocated design that is free from clutter that distracts readers from the central message. He suggested a muted background for the Web page or pages to allow for good contrast between the text and the background, sparing use of bright colors, and use of the same color for all items that belong to the same category. In their proposed standards for the design of Web surveys, Crawford et al. (2005) recommended that any logo and contact information be placed in an out-of-the-way location on each screen. These items, according to Crawford et al., should be available if respondents need them, but they should be placed a manner that allows most people to develop "banner-blindness" and ignore them. A line or change of color should set the questions apart from the rest of the viewing screen. The screen should also contain a progress bar or page number (e.g., presented in the format "page 1 of 6") that tells respondents how far they have progressed through the questionnaire. Crawford et al. recommended organizing a long questionnaire as pages, thereby avoiding the need to scroll down through a long list of questions on one page. They advised the use of black font for text and suggested that error messages, if used, give very specific information about the error. For this survey, which contained forced-response questions, respondents received a very specific error message if they did not answer all the items on a page when they tried to proceed to the next page. The message said, "Please select a response for question #__." Crawford et al. also recommended a maximum of 12 grid columns,

including a column for the questions. All response columns should be evenly spaced, they explained, so that no response choice receives more or less attention than the others. Norman (n.d.) advised that Web-based surveys should always be password protected to restrict access by unauthorized respondents. The cohort used all of these standards, recommendations, and Web design principles in the design of the QSM questionnaire for this study.

3.4.5 Field Pretest

In order to establish internal reliability, we conducted a field pretest of the questionnaire. A representative sample of 20 administrators, teachers, and staff from Chugach School District participated in the field pretest (McMillan & Schumacher, 2001). At the time of the study, one of the cohort members was superintendent of this district. To establish internal reliability, we calculated a value for Cronbach's Alpha separately for each of the seven Baldrige categories. We retained 72 items in the final instrument that allowed for sufficient reliability as shown in Table 3.2.

Table 3.2

Pilot Questionnaire Reliability with 84 and 72 Items

Questionnaire Category	Alpha Before Cut (84 Items) - Belief Scale	Alpha After Cut (72 Items)- Belief Scale	Alpha Before Cut (84 Items) - Practice Scale	Alpha After Cut (72 Items)- Practice Scale
Leadership	0.9394	0.9265	0.8396	0.8386
Knowledge Management	0.9044	0.8966	0.8246	0.8234
Process Management	0.9148	0.9093	0.8471	0.8552
Results	0.8953	0.895	0.7174	0.729
Staff Focus	0.8886	0.8831	0.801	0.8008
Student/Stakeholder/ Market Focus	0.9047	0.901	0.7659	0.7354
Strategic Planning	0.8843	0.8742	0.7195	0.7175

N = 20

3.4.6 Questionnaire Administration

Two weeks prior to administering the questionnaire, we sent an email to all participants introducing the cohort members, providing an overview of the study, and explaining the incentive. The questionnaire was administered electronically via a secure third-party Web site. A database was linked to the survey to capture participant responses while they completed the questionnaire. We sent to each participant an e-mail containing an explanatory cover letter and informed consent document, request for completion, and the link to the questionnaire. In the e-mail, we asked participants to complete the questionnaire within one week. Table 3.3 details the contacts made with the respondents.

Table 3.3

Contact Log to Elicit Questionnaire Participation

Lake and Peninsula School District		
Date	Contact Type	Contact Information
4/16-07	email	District Superintendent to get individual email addresses for all staff
04/17/07	email	Cohort and Survey introduction to all staff
04/24/07	email	Survey access directions sent to all staff
05/02/07	email	Encouraging follow-up prompt to all staff
05/10/07	email	Thank you to all respondents requesting them to encourage non-respondents. Announcement of prize winners thus far.
05/10/07	email	Encouraging follow up to updated list of non-respondents. Announcement of prize winners thus far.
05/16/07	phone	Phone calls to principals to encourage non-respondents
05/16/07	email	Now that the school year has ended message to non-respondents
Ongoing individual staff contacts (phone and email) to answer survey questions, provide survey technical assistance, and encourage participation.		

Table 3.3

Contact Log to Elicit Questionnaire Participation continued

Bering Strait School District		
Date	Contact Type	Contact Information
04/16/07	email	Cohort and Survey introduction to all staff
04/24/07	email	Survey access directions sent to all staff
04/25/07	email	Contact district technology coordinators to get breakdown numbers of district certified and classified staff.
05/02/07	email	Encouraging follow-up prompt to all staff
05/09/07	email	District office staff member to get individual staff member email accounts
05/15/07 to 05/17-07	email	Encouraging follow up to updated list of non-respondents. Announcement of prizewinners thus far.
05/15/07 to 05/17-07	phone	Phone calls to principals to encourage non-respondents
05/19/07	email	Now that the school year has ended message to non-respondents
Ongoing individual staff contacts (phone and email) to answer survey questions, provide survey technical assistance, and encourage participation.		
Kuspuk School District		
Date	Contact Type	Contact Information
04/20/07	email/phone	Contact Superintendent for district email
04/24/07	email	Cohort and Survey introduction to all staff
04/25/07	email	Survey access directions sent to all staff
05/02/07	email	Encouraging follow-up prompt to all staff

3.5 Analysis of Quantitative Data

3.5.1 Response Data

All administrators, teachers, and support staff with district e-mail accounts in the Bering Strait, Lake and Peninsula, and Kuspuk School Districts were invited to complete the questionnaire. Completion of the survey was voluntary, with prize incentives

provided to randomly selected participants. The total number of usable responses was 212, including 125 from Bering Strait School District, 49 from Kuspuk School District, and 38 from Lake and Peninsula School District. The total response rate for the survey was 212 out of 638 potential respondents (33%). The participation rate was much higher for certificated staff (54%) than for classified staff (13%) who were less likely to access their district e-mail accounts on a regular basis. Table 3.4 presents certified and classified staff member response rates along with the total response rate.

Table 3.4

Certified and Classified Response Data for Questionnaire

	Certified			Classified		
District	Possible N	Actual N	Response Percentage	Possible N	Actual N	Response Percentage
BSSD	203	103	50%	265	22	8%
LPSD	61	30	49%	15	8	53%
KSD	46	35	76%	48	14	29%
Total	310	168	54%	328	44	13%

Two hundred forty-nine participants started the Web-based questionnaire. Thirty-three of these participants stopped at some point and didn't finish. By checking the identifying computer number and clock time, the cohort determined that most of the individuals who stopped taking the questionnaire started anew at a later time and completed it. The 33 incomplete cases were removed from the data file. Four additional cases each had one

missing response; those cases were also removed from the data file, leaving 212 cases for analysis.

3.5.2 Reliability of Instrument

We used Cronbach's Alpha to analyze reliability separately for each Baldrige category for the belief and practice scale. Each category had acceptable internal consistency ($\alpha > .7$) for both the belief and practice scales as shown in Table 3.5.

Table 3.5

Questionnaire Reliability by Category for Belief and Practice Scales

Baldrige Category	Belief Scale Alpha	Practice Scale Alpha
Knowledge Management	0.90	0.89
Process Management	0.91	0.91
Results	0.88	0.83
Staff Focus	0.91	0.87
Student/Stakeholder/ Market Focus	0.89	0.87
Strategic Planning	0.90	0.87

N = 212

3.5.2 Analysis for Research Questions 1, 2, and 3

Research questions 1, 2, and 3 focus on respondents' perceptions of the importance and practice of the construct of Staff Focus as part of the Quality Schools Model. Through the categorical analysis, expert review, and field test conducted prior to administration of the questionnaire, I retained 11 items measuring the construct of Staff

Focus on the final questionnaire. To identify the dimensionality of the 11 Staff Focus items from the questionnaire, I used principal component factor analysis with varimax rotation. Using the rotated solution and theory regarding the Baldrige criterion of Staff Focus, I grouped the variables into appropriate sub factors retaining those variables that best measured the construct and the sub factors.

Because the hypotheses for these research questions utilize the demographic data of respondents, I identified the groupings in which this demographic data would be analyzed. For example, while the questionnaire provided the options of "4 to 7 years" and "8 to 10 years" for the demographic of "education work experience", these two options could be grouped together for the purpose of analysis in order to create a grouping representing staff who weren't new to education, but weren't mid-career either. I considered the usefulness of various groupings (e.g. 3 years or less of educational experience versus 10 years of less of educational experience), as well as the number of respondents that would be in each of the various grouping options. Table 3.6 shows the grouping of the demographic data for the purpose of data analysis.

Table 3.6

Groupings of Respondents' Demographic Charateristics for Research Questions 1 through 3

Demographic	Groupings		
Job Classification	administrators	teachers	classified
Years of Education Experience	3 years or less	4 - 10 years	11 years or more
Years of QSM Experience	3 years or less	more than 3 years	

I used descriptive statistics to determine the perceptions of importance and practice for Staff Focus sub factors and variables. Means and standard deviations were calculated for importance and practice responses, and response frequencies and percentages were calculated for each possible response.

In order to evaluate the difference between the perceptions of respondents in the demographic groups respective to each hypothesis, I utilized parametric statistical methods. For research questions 1, 2 and 3 the independent variables were the demographic groups (e.g. certified staff and classified staff), and the dependent variables were perceptions of the importance and practice of Staff Focus as measured by the responses to the questionnaire items. I conducted an independent-samples *t* test in order to test the hypotheses comparing two independent variables (e.g. respondents with less than 3 years experience and respondents with more than 3 years experience) to determine whether or not there was a statistically significant difference in the perceptions of the two demographic groups. For hypotheses involving more than two independent variables (e.g. administrators, teachers, and classified staff), I conducted a one-way analysis of variance (ANOVA) to compare perceptions of the demographic groups. I performed ad hoc comparisons to identify which of the groups had statistically significant differences in their means.

For research question 3, I conducted a paired-samples *t* test to compare perceptions of the importance of Staff Focus items to the perceptions of the practice of Staff Focus items.

3.5.3 Analysis for Research Question 4

Research Question 4 for this study sought to determine the casual relationships in the three rural Alaskan districts among the seven Baldrige Education Criteria. The research cohort used structural equation modeling (SEM) to examine the Baldrige framework as a whole to determine if the causal relationships implied by the model structure fit the actual relationships within the data set.

SEM is a statistical method used to test a theory about potential relationship among variables. Tabachnick and Fidell (2007), in describing the value of structural equation modeling said, "When the phenomena of interest are complex and multidimensional, SEM is the only analysis that allows complete and simultaneous tests of all the relationships" (p. 679). Relationships in SEM are determined among latent constructs as reflected by measured variables. In this study the latent constructs are the seven Baldrige Criteria and the measured variables are the questionnaire items that reflect each of the constructs. SEM determines if constructs within a model are exogenous or endogenous. Constructs that influence but are not influenced by other constructs are exogenous (Schreiber, J.B., Stage, F.K., King, J., Nora, A., & Barlow, E.A., 2006). Endogenous variables are both influenced by and influence other constructs (Schreiber, J.B. et al, 2006). Exogenous variables are similar to independent variables, and endogenous variables are similar to dependent variables.

As shown in Figure 3.1 the Baldrige framework proposes that Staff Focus is an endogenous variable, affecting, for example, Results, and being affected by Process

Management. SEM allows these hypothesized relationships among the Baldrige Criteria to be tested.

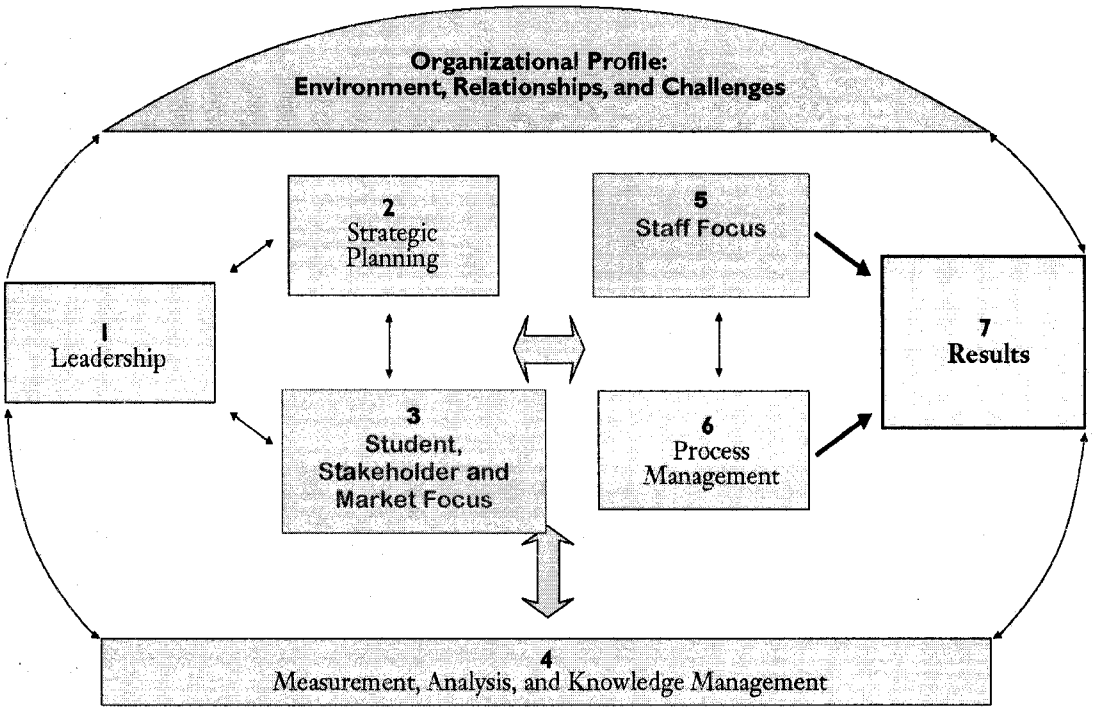

Figure 3.1 *Baldrige Education Criteria for Performance Excellence Framework: A Systems Perspective*

Several data analysis procedures preceded SEM. The research cohort used principal components analysis (PCA) to reaffirm the placement of variables within the seven Baldrige constructs. Each of the seven constructs of the Baldrige framework was represented by items from the questionnaire. We used the communalities and factors loadings from the PCA, as well as knowledge of the underlying theory for the Baldrige framework, to identify measurable variables for each construct. Next, using AMOS in SPSS 11.5, we conducted a confirmatory factor analysis (CFA) separately for each construct in order to confirm that variables reliably measured sub factors and factors, and

to reduce the variables to a number appropriate for the sample size of 212 respondents. While researchers differ regarding the number of cases (respondents) needed per variable (item), the "rule of ten" is often applied (Garson, G.D., n.d.), requiring ten cases for each variable retained in SEM. Next, confirmatory factor analysis for all seven constructs provided a means of assessing the quality of the variables representing each construct, and making decisions regarding the variables to be retained for SEM. Finally, the causal relationships postulated within the Baldrige framework were incorporated into a structural model and tested using the AMOS software.

The goal of both CFA and SEM is to use as many of the identified measurable variables as possible to paradoxically achieve a parsimonious fit as measured by acceptable model index scores. That said, Schreiber, et al. (2006) caution that many researchers become enamored with fit statistics and lose sight that both CFA and SEM should be guided by theory. The fit statistics commonly used to determine the suitability of a CFA solution or structural model are: $\chi^2/df \leq 2$ or 3; Comparative fit index (CFI) or Normed fit index (NFI) $\geq .95$; Goodness-of-fit index (GFI) $\geq .95$; and Root mean square error of approximation (RMSEA) <.06 to .08. The chi-square statistic is especially helpful for comparing different models as modifications are made. Both CFI and GFI are sample-based absolute fit indices, with GFI accommodating more complex models better than CFI which almost always goes down as more parameters are freed. GFI is sometimes considered to be the normed chi-square statistic (Sun, 2005). RMSEA is a population-based absolute fit index, based on the estimated difference between the reproduced covariance matrix and the unknown population covariance matrix. Sun

(2005) recommended RMSEA for construct validity evaluation. NFI, the normed fit index was designed to be sensitive to sample size, guarding against an inflation effect for large samples and a bias effect for small samples.

3.6 Interviews

3.6.1 Purpose of the Interviews

Kushman and Barnhardt (1999) wrote that "Community voice captures the essence of what we believe to be the important elements of a productive educational partnership between school and communities in remote Alaska villages" (p. 13). Active solicitation and incorporation of community input is expected in many of the processes within the QSM. Likewise, the Baldrige Criteria contain an expectation of community involvement for education effectiveness. The research cohort conducted semi-structured interviews with a cross-section of individuals from two of the school districts to elicit the community perspective related to implementation of the QSM. We had two main objectives for the interviews: (a) to ascertain the degree to which the respondents considered the Quality Schools Model to be important and in existence in their schools; and (b) to do so in a manner that "elaborates, enhances, illustrates, or clarifies," (Greene, Caracelli, & Graham 1989, p. 257) the information obtained through the questionnaire.

3.6.2 Interview Participants

Utilizing criterion sampling, we selected staff and community members from the communities served by each of the school districts. "Criterion sampling involves the selection of cases that satisfy an important criterion. This strategy is particularly useful in studying educational programs," (Gall et al., 2007, p. 187). We requested assistant from

the district superintendent and school principals in identifying potential interview participants who were likely to have knowledge of school programs and activities. We conducted a total of 14 interviews which included individuals serving in one or more of the following roles: community member, parent, elder, school board member, classified staff person, district office administrator, teacher, and principal. All of the interview participants were from either Lake and Peninsula School District or Bering Strait School District. Kuspuk School District declined to participate in the interviews. Table 3.7 provides demographic information for interview participants.

Table 3.7

Demographic Information for Interview Participants

Stakeholder Group	Site	Years of QSM Experience	Years of Educational Experience
Community Member / Retired Teacher	A	6	23
Community Member	B	6	
School Board President / Elder	C	8	28
Classified Staff / Elder	C	8	30
Elder	D	6	
Board Member	C	6	20
Teacher	E	3	6
Teacher	F	6	6
Teacher	G	7	22
Teacher	D	2	2
Principal	A	7	15
Principal	H	7	25
District Administrator	I	6	19

Note: Letters correspond to the site represented by each participant

Where possible, we conducted interviews in person in the interviewee's community. When this was not possible due to our travel limitations, we conducted interviews at a location and time of mutual convenience, such as at a conference or by

telephone. We recorded the setting and mode (face-to-face or telephone) for each interview on the interview protocol form.

3.6.3 Interview Questions

> For a question to be useful, it must first be logically relevant to the objectives of the interview. However, for it to be relevant is not enough; the question must also be formulated to motivate the respondent to give complete and accurate answers. (Gorden, 1992, p. 23)

The research cohort used the interview process to bridge the more general education reform criteria of Baldrige in Education and the specific cultural focus that is a strength of the Quality Schools Model of education reform. The second objective for the interview was to collect data that would complement the data collected through the questionnaire. Patton (1987, p. 118) provided a "Matrix of Question Options" that outlines six types of interview questions. Behavior/experience questions address subjects' past, present, or future actions and result in responses in which subjects describe activities, decisions, or behaviors that would actually be observable. Opinion/belief questions are aimed at understanding how subjects cognitively structure their reality. They attempt to uncover a subject's world-view of things, and frequently begin with phrases such as "What is your opinion of..." or "What do you think about..." Frequently, people confuse these kinds of questions with the next two types: feeling questions and knowledge questions. Feeling questions deal with affective, rather than cognitive, subjectivity. In these questions, the participant's emotional responses (i.e. happiness, fear, anxiety, confidence, etc) are what are important. Knowledge questions, on the other hand, seek factual information

regarding what the participant knows. Questions of the fifth type, sensory questions, assess what a subject sees, hears, feels, taste, or smells. Finally, background/demographic questions obtain information about a subject's identifying characteristics and may include age, educational level, annual income, place of residence, and so on.

In developing interview questions, the cohort members sought a balance among questions that probed respondents' beliefs about the importance of implementation of the QSM and those that probed the degree to which they saw evidence of the QSM in practice in their district. The former primarily took the form of opinion/belief and feeling questions, while the latter took the form of knowledge and sensory questions. Experience/behavior questions and background/demographic questions provided us with clarifying information about interview participants. Five questions served as the focus for the interviews:

1. What do you know about the QSM
2. Is the QSM important to you?
3. What is working best with the QSM?
4. What could be improved with the QSM?
5. What recommendations or suggestions do you have for improving the QSM?

3.6.4 Interview Protocol

Eisner (1998, p. 183) warned that "interviews need not—indeed, should not—be formal, questionnaire-oriented encounters. The aim is for the interviewer to put the person at ease, to have some sense of what he or she wants to know, but not to be either rigid or mechanical in method." A semi structured, open-ended interview format was

selected in order to allow follow-up prompts that would help to elicit rich responses while also reducing the possibility of interviewer variance (Groves et al., 2004, p. 281). Groves et al. explained "one of the most effective ways to reduce interviewer variance is to create questions that do not require the interviewers to vary their behavior over respondents. The variation of importance here concerns clarifying questions and probing inadequate answers" (p. 281). Consistency between interviews was important in this case because two different interviewers collected the data for the cohort. Groves et al. gave the following five suggestions for standardizing the data-collection process:

1. Interact with the respondent in a way that is professional, task oriented, and that minimizes the potential of respondents to adhere to or infer preferences for the kind of answer that are obtained.
2. Read question exactly as worded.
3. Explain the survey procedures and question-and-answer process to the respondent.
4. Probe non-directly; that is, in a way that does not increase the likelihood of one answer over others.
5. Record answers that respondents give without interpreting, paraphrasing, or inferring what respondents themselves have not said.

The interview protocol specified the questions, the sequence in which they were asked, and guidelines for what the interviewer was to say at the beginning and end of each interview (Gall, et al. 2007). Notes and tape recording preserved information collected during the interviews.

3.6.5 Analysis of Interview Data

The analysis of interview data occurred separately and after the completion of all interviews. Using the recordings of the interviews, the research cohort transcribed interview responses verbatim to word-processed documents and these transcripts served as the data set for analysis. Throughout this process, I applied several caveats from the literature regarding the coding process. Lincoln and Guba (1985) advise that categories should be viewed as temporary during the beginning stages of coding. As coding continues, a researcher should "devise rules that describe category properties and that can, ultimately, be used to justify the inclusion of each data bit that remains assigned to the category as well as to provide a basis for later tests of replicability" (p. 347). This requires flexibility on the part of the researcher to allow for new observations and new directions. Tesch (1990) stresses that the objective of qualitative analysis is not merely to make the data smaller or manageable, but to interpret and organize the data for meaning.

I first read the interview data once without trying to assign codes, but noticing patterns and connections to the research questions. As I read each interview transcript for the second time, I employed an inductive approach to coding whereby labels or codes were generated in response to the data, rather than predetermined (Miles and Huberman, 1994). Using both a descriptive and interpretive approach, I created codes and assigned them to units of data. Descriptive coding requires little interpretation of the data and focuses on key words or phrases as the basis for creating and assigning codes. Interpretive coding focuses more on the underlying meaning or concept represented by the interview data. For example, if a teacher says, "The Quality Schools Model is a big

change," a descriptive code of "change for staff" could be assigned. The same code could be applied interpretively to a response of "Sharing the grading with other teachers is a difficult thing for high school teachers." I analyzed data sentence-by-sentence or in a several sentence chunk. I kept a list of these initial codes adding to it after the coding of each interview. After all interviews had been coded once, I reviewed the list of codes and created pattern codes that grouped the codes by theme or construct (Miles and Huberman, 1994). I reread and recoded each interview using the pattern codes creating, eliminating, or combining codes as appropriate, and assigning more than one code to a unit of analysis if necessary. This process continued until the list of codes had stabilized and I determined that all relevant data had been coded. As explained by Lincoln and Guba (1985), "Coding and recoding are over when the analysis itself appears to have run its course – when all of the incidents can be readily classified, categories are 'saturated,' and sufficient numbers of 'regularities' emerge" (in Miles and Huberman, 1994).

3.7 Triangulation of Data

Various terms are used in the literature to describe the practice of considering multiple sources of data in order to accomplish a fuller understanding of the phenomena studied (Bogden and Biklen, 2003). The most frequently-used term, triangulation, refers to "cross-validation among data sources, data collection strategies, time periods, and theoretical schemes" (McMillan and Schumacher, 2001, page 478). Eisner (1998) proposes the term structural corroboration for identifying "the means through which multiple types of data are related to each other to support or contradict the interpretation and evaluation of a state of affairs" (p. 110).

The research cohort's purpose for collecting data through a questionnaire and interviews was to describe the implementation of the QSM in a way that reflected the stakeholder-inclusive design of the QSM framework, and the comprehensive consideration of quality as defined by the Baldrige Criteria. I analyzed data from the questionnaire in order to answer the first four research questions regarding perceived importance and practice of Staff Focus. I considered interview data in order to determine the extent to which community members perceived Staff Focus to be important and in existence in their schools and to amplify questionnaire responses from school staff. Findings and, particularly, recommendations reflect consideration and comparison of all data in order to "seek a confluence of evidence and feel confident about observations, interpretations, and conclusions" (Eisner, 1998, p.110).

3.8 Chapter Summary

In this chapter, I detailed the research design and methodology for the study in order to answer four research questions with ten supporting alternative hypotheses. I used a mixed-method approach to consider quantitative and qualitative concurrently through the analysis of questionnaire and interview data. In Chapter 4, I present the results of the quantitative and qualitative data analysis.

CHAPTER 4: RESULTS

This chapter presents the quantitative and qualitative results of the study. I first present the quantitative results obtained by an analysis of the questionnaire data and organize these results in terms of the four research questions and related hypotheses. Next, I present the qualitative results from interviews with staff and community members and organize these results according to the major themes that emerged from the data.

4.1 Quantitative Results

4.1.1 Tests of Assumptions for Statistical Tests for Research Questions One, Two, Three and Four

To answer research questions one, two, and three, I used parametric statistics. These questions focused on Staff Focus and used data from responses to both the importance and practice scales for the eleven Staff Focus items on the Quality Schools Model Implementation Questionnaire. Research Question 4 was shared by the four-member cohort and we used structural equation modeling to examine the relationships among the seven Baldrige criteria as represented by questionnaire items measuring each of the criteria. We used only responses to the practice scale in the analysis for Research Question 4. Table 4.0 shows the questionnaire items and the Baldrige criteria that they represented.

Table 4.0

Baldrige Criteria and Respective Questionnaire Items

Factor	Survey Questions
Leadership	2, 8, 31, 32, 39, 42, 47, 48, 49, 63, 66, 72
Strategic Planning	16, 24, 34, 38, 45, 53, 54, 56
Knowledge Management	7, 20, 22, 25, 27, 29, 40, 44, 52, 57, 59,
Process Management	6,10, 12, 18, 21, 30, 33, 41, 58, 61, 62
Staff Focus	3, 4, 9, 14, 46, 50, 51, 55, 60, 65, 68
Student, Stakeholder Market Focus	1, 11, 13, 15, 23, 35, 36, 37, 67, 71
Results	5, 17, 19, 26, 28, 43, 64, 69, 70

For parametric statistical techniques, normal distribution of variables is assumed and for structural equation modeling, multivariate normal distribution of variables is assumed. The bivariate sample statistics of skewness and kurtosis are routinely used to assess normality for both parametric statistics and SEM. Skewness is a measure of the asymmetry of a distribution, while kurtosis is an index of peakedness or flatness of a distribution. In SPSS 15.0 a perfectly normal distribution would have a skewness and kurtosis value of 0. As a general rule of thumb, "discrete data may be assumed to be normal if skew and kurtosis is within the range of +/- 1.0," (Schumacker & Lomax, 2004). Researchers (Kline, 2004; Tabachnick & Fidell, 2007) generally agree that a skewness value greater than 3.0 represents a severe departure from normality. There is less agreement in the literature regarding kurtosis values and departure from normality

though a general guideline is that kurtosis values in the range of +2.0 to -2.0 are acceptable (De Carlo, 1997) though a few authors recommend the more lenient +3 to -3 range. Tabachnick and Fidel note that with a reasonably large sample (e.g. >200 cases) "a variable with statistically significant skewness often does not deviate enough from normality to make a substantive difference in the analysis" and that risks associated with significant kurtosis are also reduced with a sample size greater than 200 (p. 80).

A second important consideration prior to conducting SEM is the screening of variables for outliers, cases with values markedly above or below the majority of other cases. As a general guide, scores that are more than three standard deviations from the mean are considered outliers (Kline, 2004).

In order to determine the appropriateness of the use of parametric statistical techniques for research questions one, two, and three, I assessed the scores from the importance and practice scales for the Staff Focus items for normality and the presence of outliers using SPSS 15.0. For the belief data, all eleven variables had a negative skew toward the "agree" and "strongly agree" response options, the greatest value of which was -1.659 for item 55. That item also had the greatest kurtosis value which was 2.753. An analysis of box plots showed that each of the eleven items had an outlier score. Comparison of the original and 5% trimmed means showed that the greatest impact of an outlier on a mean score was a difference of .07 for item 4. For the practice data, ten of the eleven variables had a slight negative skew toward "frequently" and "always" the greatest value of which was -.347 for item 65. Kurtosis values, likewise, were well within

acceptable ranges with item 4 having the greatest value of -.906. No items had outliers for the importance scale data.

In order to determine the appropriateness of the use of structural equation modeling for Research Question 4, the research cohort conducted tests for normality and the presence of outliers for the importance scale data for all variables that represented the other six Baldrige factors. Eight of the eleven Knowledge Management variables had a slight negative skew with item 29 having the highest value (-1.095). Items 7, 22, 27, and 29 had outlier scores. Comparison for these items of the 5% trimmed mean to the original mean showed very small percent differences: .01 for item 7; .04 for item 22; .04 for item 27; and .09 for item 29. The cohort did not remove any outliers due to their lack of effect on the mean scores.

For the factor of Strategic Planning, the skewness value did not exceed 1.0 for any variable, though six of the eight had a slight negative skew. Items 24 and 45 had outliers with differences between the 5% trimmed mean and the original mean of .04 and .05 respectively. All skew and kurtosis values for the factor of Student, Stakeholder, and Market Focus were within the range of +1.0 to -1.0. Item 15 had an outlier and a difference of only .04 between the 5% trimmed mean and the original mean. For the factor of Leadership, eleven of twelve variables had a slight negative skew the value of which did not exceed +/- 1.0 for any variable. Seven variables (items 2, 8, 31, 39, 42, 63, and 72) had outlier scores. The greatest difference between the .5% trimmed mean and the original mean for these variables was .05. Due to their lack of effect on the mean scores, the cohort did not remove any outliers. Eight of the eleven variables in the

Process Management variable had a slight negative skew all of which were less than + / - 1.0. There were no outliers for any variable. For Results, all skew values for the variables were within the range of + / - 1.0. Five of the nine variables had a slight positive skew toward the "disagree" and "strongly disagree" responses options. Item 5 had two outlier scores and a difference between the 5% trimmed mean and the original mean of only .04. Item 64 had one outlier score and a difference between the two means of .05.

None of the variables for any of the seven Baldrige factors showed evidence of non-normality (skewness > 3.0; kurtosis > 2.0) nor was the effect of outlier scores on means significant. The cohort retained a total of 72 variables for possible inclusion in the structural equation model.

4.1.2 Results of Factor Analysis

In order to determine the interrelations among the Staff Focus variables, the researcher conducted a principal component factor analysis with Varimax (orthogonal) rotation using SPSS Version 15. I conducted factor analyses separately for the importance and practice scales. For the importance scale data, principal components analysis revealed the presence of two components with eigenvalues exceeding 1, which, together, explained a total of 65.1% of the variance for all of the variables in the importance scale. This rotated solution yielded three variables loading at .6 or higher on factor one (staff learning), seven variables loading at .6 or higher on factor two (staff motivation), and one variable loading on both factors.

I conducted the same process for the practice scale data. Two components had eigenvalues exceeding 1, which explained a total of 54.4% of the variance for all of the

variables in the practice scale data. This procedure yielded five variables loading at .6 or higher on factor one (staff learning), four variables loading at .6 or higher on factor two (staff motivation), and two variables loading on both factors. The rotated solution for both belief and practice data is shown in Table 4.1.

Table 4.1

Summary of Items and Factor Loadings for Varimax Rotated Solution of Principal Components for Staff Focus Items for Importance Scale

Item	Importance Scale		Practice Scale	
	Factor Loading		Factor Loading	
	Factor 1 Staff Motivation	Factor 2 Staff Learning	Factor 1 Staff Motivation	Factor 2 Staff Learning
3	0.194	**0.794**	0.164	**0.709**
4	0.230	**0.804**	0.084	**0.812**
9	0.274	**0.780**	0.360	**0.634**
14	0.532	0.553	0.237	**0.716**
46	**0.651**	0.401	**0.714**	-0.040
50	**0.763**	0.209	0.558	0.470
51	**0.827**	0.185	**0.707**	0.346
55	**0.717**	0.296	**0.661**	0.230
60	**0.744**	0.304	**0.663**	0.412
65	**0.701**	0.445	0.366	**0.619**
68	**0.793**	0.150	0.508	0.399
Eigenvalue	5.994	1.165	1.071	4.921
% of Total Varianc	39.3%	25.8%	25.5%	28.9%
Total Variance		65.1%		54.5%

Note. Boldface indicates highest factor loadings.

For the importance scale, Staff Learning explained 39.3% of the total variance while Staff Motivation explained an additional 25.8%. Together they explained 65.1% of the total variance. For the practice scale, the magnitude of the variance was reversed, with Staff Motivation explaining a slightly higher percentage of the total variation (28.9%) than Staff Learning (25.5%). Together they accounted for 54.5% of the total variation. Although the magnitude of the two factors is reversed, the groupings remain relatively consistent for both scales.

The results from the rotated solutions for both the importance and practice scales reveal that items 3, 4, and 9 load together at .6 or higher, as do items 46, 51, 55, and 60. The only item loading at less than .6 for importance (item 14) loaded above .6 on the practice scale and was thus placed in the Staff Learning sub factor. The two items (50 and 68) which loaded at less than .6 on the practice scale loaded above .6 on the importance scale and were thus placed in the Staff motivation sub factor. Table 4.2 shows the questions for the Staff Learning and Staff Motivation sub factors.

Table 4.2

Staff Focus Factors and Questionnaire Items

Item
Factor 1: Staff Learning
3. Our district plans effectively for transitions of personnel into leadership positions.
4. Our district has an effective training program in continuous improvement as part of our new employee orientation.
9. Faculty and staff are asked to identify the areas in which they would like to receive professional development.
14. Systems are in place to train and educate faculty and staff to achieve district goals.
65. Our district assesses the effectiveness of our training programs for staff members.
Factor 2: Staff Motivation
46. School staff are adequately prepared to handle disasters and emergencies.
50. Our district encourages faculty and staff to be involved in district-level decision making.
51. Staff members are given prompt positive feedback when they make contributions to school district quality.
55. Our district recruits, hires, and retains the best possible faculty and staff.
60. Our district regularly assesses the satisfaction levels of staff members.
68. Our staff effectively communicates and shares knowledge and skills across our departments,

4.1.3 Research Question 1

Research Question 1 was stated as follows: To what extent do administrators, staff, and community members perceive Staff Focus to be important as a part of the

Quality Schools Model in their schools? Table 4.3 summarizes the responses of all respondents to the Staff Learning and Staff Motivation sub-category variables on the importance scale. I created three hypotheses to address the relationships between the perceptions of importance which might be attributed to the demographic characteristics of respondents.

Table 4.3

Responses for Staff Learning and Staff Motivation Dependent Variables on Importance Scale

Variable	Strongly Disagree %	Disagree %	Agree %	Strongly Agree %	M	SD
			Staff Learning			
3	1.4%	6.1%	45.3%	47.2%	3.38	0.668
4	0.9%	5.2%	33.5%	60.4%	3.53	0.641
9	0.9%	3.8%	30.7%	64.6%	3.59	0.613
14	0.5%	2.4%	43.9%	53.5%	3.5	0.572
65	0.5%	2.4%	38.2%	59.0%	3.56	0.569
Total for Subfactor					3.51	0.481
			Staff Motivation			
46	0.5%	5.2%	30.7%	63.7%	3.58	0.615
50	1.4%	2.8%	37.7%	58.0%	3.52	0.627
51	0.9%	6.1%	37.7%	55.2%	3.47	0.656
55	0.5%	2.8%	25.5%	71.2%	3.67	0.553
60	0.9%	9.4%	41.0%	48.6%	3.37	0.694
68	0.5%	4.7%	38.2%	56.6%	3.51	0.612
Total for Subfactor					3.52	0.501

N = 212

4.1.3.1 Hypothesis One

For the first hypothesis for research question, I predicted that administrators, teachers, and classified staff would differ in the extent to which they perceived Staff Focus factors to be important in their schools as measured by the questionnaire. For the Staff Learning sub factor, the mean perception of importance for administrators was 3.61 (n = 36), for teachers was 3.51 (n = 132), and for classified staff was 3.42 (n = 44). For the Staff Motivation sub factor, the mean perception of importance for administrators was 3.65 (n = 36), for teachers was 3.51 (n = 132), and for classified staff was 3.43 (n = 44).

I conducted a one-way analysis of variance (ANOVA) to explore the relationship between job classification and perceptions of the importance of the Staff Focus factor. There were no statistically significant differences at the $p < .05$ level between the perceptions of administrators, teachers, and classified staff for the Staff Learning sub factor or Staff Learning variables as shown in Table 4.4.

Table 4.4

One-Way Analyses of Variance for Effects of Classification on Five Staff Learning Dependent Variables for Importance Scale

	Administrators		Teachers		Classified		Anova	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	3.5	0.697	3.36	0.691	3.34	0.568	0.694	0.501
4	3.61	0.728	3.56	0.621	3.39	0.618	1.548	0.215
9	3.64	0.639	3.62	0.599	3.45	0.627	1.364	0.258
14	3.61	0.494	3.47	0.598	3.5	0.55	0.864	0.423
65	3.69	0.467	3.55	0.609	3.5	0.55	1.78	0.171
Subfactor total	3.61	0.408	3.51	0.507	3.42	0.447	1.452	0.237

For the sub factor of Staff Motivation, there was a statistically significant difference in the perceptions of importance for one of the Staff Motivation variables, item 55 ($F = 3.32$, $df = 2/209$, $p = .038$). Post-hoc comparisons using Tukey's Honestly Significant Different test (HSD) indicated that the mean score for administrators ($M = 3.86$, $SD = .351$) was significantly different from the mean for the classified staff ($M = 3.55$, $SD = .504$) as shown in Table 4.5.

Table 4.5

One-Way Analyses of Variance for Effects of Classification on Five Staff Motivation Dependent Variables for Importance Scale

	Administrators		Teachers		Classified		Anova	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	3.64	0.543	3.56	0.645	3.57	0.587	0.231	0.794
50	3.72	0.454	3.48	0.671	3.48	0.59	2.205	0.113
51	3.61	0.494	3.46	0.692	3.39	0.655	1.201	0.303
55	3.86	0.351	3.67	0.601	3.55	0.504	3.332	0.038
60	3.47	0.609	3.37	0.725	3.3	0.668	0.641	0.528
68	3.64	0.487	3.52	0.648	3.36	0.574	2.108	2.108
Subfactor total	3.65	0.333	3.51	0.544	3.43	0.463	1.959	0.144

4.1.3.2 Hypothesis Two

For the second hypothesis for Research Question 1, I predicted that the perceptions of the importance of Staff Focus factors would differ based on respondents' years of educational work experience. I divided respondents into three groups: three years or less of experience; four to ten years of experience; and more than ten years of experience. For the Staff Learning sub factor, the mean perception of importance for respondents with 3 years or less was 3.47 (n = 44), for respondents with four to ten years was 3.63 (n = 67), and for respondents with more than ten years was 3.44 (n = 101). For the Staff Motivation sub factor, the mean perception of importance for respondents with 3

years or less was 3.50 (n = 44), for respondents with four to ten years was 3.63 (n = 67), and for respondents with more than ten years was 3.45 (n = 101).

I conducted a one-way analysis of variance to explore the impact of years of educational work experience on perceptions of the importance of the Staff Focus factor. There were statistically significant differences at the $p < .05$ level between the three educational experience groups for the Staff Learning sub factor ($F = 3.36$, $df = 2/209$, $p = .036$) and for two Staff Learning variables, item 4 ($F = 5.14$, $df = 2/209$, $p = .007$) and item 14 ($F = 3.50$, $df = 2/209$, $p = .032$). Post-hoc comparisons using Tukey's HSD indicated that for both items 4 and 14 the mean score for respondents with four to ten years of experience was significantly different from respondents with more than ten years of experience as shown in Table 4.6.

Table 4.6

One-Way Analyses of Variance for Effects of Education Experience on Five Staff Learning Dependent Variables for Importance Scale

	3 years or less		4 - 10 years		more than 10 years		Anova	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	3.3	0.701	3.49	0.56	3.35	0.713	1.436	0.24
4	3.5	0.506	3.73	0.48	3.42	0.752	5.143	0.007
9	3.57	0.545	3.66	0.54	3.55	0.685	0.592	0.554
14	3.5	0.506	3.64	0.48	3.41	0.635	3.507	0.032
65	3.52	0.505	3.66	0.48	3.5	0.642	1.539	0.217
Subfactor total	3.47	0.427	3.63	0.38	3.44	0.545	3.368	0.036

For the sub factor of Staff Motivation, there were no statistically significant differences at the $p < .05$ level between the perceptions of the three educational experience groups, however, there were statistically significant differences for items 46 ($F = 5.23$, $df = 2/209$, $p = .006$) and 55 ($F = 4.22$, $df = 2/209$, $p = .016$). For item 46 post-hoc comparisons using HSD indicated that the mean score for respondents with four to ten years ($M = 3.72$, $SD = .517$) was significantly different from those with more than ten years ($M = 3.44$, $SD = .684$). For item 55, the mean score for respondents with three years or less ($M = 3.50$, $SD = .699$) was significantly different from those with four to ten years ($M = 3.81$, $SD = .435$). Table 4.7 provides the ANOVA results for the Staff Motivation sub factor.

Table 4.7

One-Way Analyses of Variance for Effects of Education Experience on Five Staff Motivation Dependent Variables for Importance Scale

	3 years or less		4 - 10 years		more than 10 years		Anova	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	3.68	0.518	3.72	0.517	3.44	0.684	5.230	0.006
50	3.48	0.628	3.60	0.579	3.50	0.658	0.683	0.506
51	3.55	0.627	3.54	0.611	3.40	0.694	1.288	0.278
55	3.50	0.699	3.81	0.435	3.66	0.534	4.229	0.016
60	3.30	0.632	3.54	0.659	3.30	0.729	2.807	0.063
68	3.50	0.591	3.60	0.629	3.46	0.609	1.086	0.340
Subfactor total	3.50	0.492	3.63	0.432	3.45	0.537	2.535	0.082

4.1.3.3 Hypothesis Three

For the third hypothesis for Research Question 1, I predicted that the perceptions of the importance of Staff Focus factors would differ based on the number of years that respondents had been involved with the Quality Schools Model. I divided respondents into two groups: three years or less of experience with the QSM, and more than three years of experience with the QSM. For the Staff Learning sub factor, the mean perception of importance for respondents with three years or less was 3.50 (n = 94), and for respondents with more than three years was 3.51 (n = 118). For the Staff Motivation sub

factor, the mean perception of importance for respondents with 3 years or less was 3.53 ($n = 94$), and for respondents with more than three years was 3.50 ($n = 118$).

To compare the perception scores of the two QSM experience groups, I conducted an independent samples t test. There were no significant differences between the two groups for the Staff Learning sub factor (t (210) = -.101, p = .496); for Staff Learning variables; for the Staff Motivation sub factor (t (210) = -.460, p = .694); or for Staff Motivation variables. Tables 4.8 and 4.9 provide t test results for Staff Learning and Staff Motivation respectively.

Table 4.8

Perception Differences Between QSM experience groups for Five Staff Learning Dependent Variables for Importance Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t(210)	p
3	3.37	0.688	3.39	0.654	-0.189	0.85
4	3.53	0.599	3.53	0.675	-0.022	0.982
9	3.63	0.586	3.56	0.634	0.806	0.421
14	3.47	0.599	3.53	0.634	-0.724	0.47
65	3.54	0.599	3.57	0.547	-0.32	0.749
Subfactor total	3.5	0.511	3.51	0.458	-0.101	0.92

Table 4.9

Perception Differences Between QSM experience groups for Five Staff Learning Dependent Variables for Practice Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t (210)	p
46	3.64	0.565	3.53	0.65	1.33	0.185
50	3.51	0.618	3.53	0.636	-0.268	0.789
51	3.54	0.667	3.42	0.645	1.407	0.161
55	3.61	0.626	3.73	0.483	-1.607	0.11
60	3.39	0.722	3.36	0.673	0.392	0.695
68	3.54	0.599	3.48	0.623	0.703	0.483
Subfactor total	3.53	0.524	3.5	0.483	0.46	0.646

4.1.4 Research Question 2

Research Question 2 was stated as follows: To what extent do administrators, staff, and community members perceive Staff Focus to be in practice as a part of the Quality Schools Model in their schools? Table 4.10 summarizes the responses of all respondents to the Staff Learning and Staff Motivation variables of the practice scale. I developed three hypotheses to address the relationships between the perceptions of practice that could be attributed to the demographic characteristics of respondents.

Table 4.10

Responses for Staff Learning and Staff Motivation Dependent Variables on Practice Scale

	Never	Occasionally	Frequently	Always	M	SD
Variable	%	%	%	%		
			Staff Learning			
3	4.7%	34.4%	41.5%	19.3%	2.75	0.818
4	3.8%	31.1%	37.7%	27.4%	2.89	0.852
9	4.2%	24.5%	40.6%	30.7%	2.98	0.851
14	1.9%	22.2%	47.6%	28.3%	3.02	0.763
65	2.8%	25.0%	38.7%	33.5%	3.03	0.837
			Staff Motivation			
46	8.5%	33.0%	39.6%	18.9%	2.69	0.875
50	5.7%	27.4%	42.5%	24.5%	2.86	0.854
51	5.2%	38.2%	37.3%	19.3%	2.71	0.837
55	1.4%	27.4%	48.1%	23.1%	2.93	0.748
60	19.3%	45.3%	23.6%	11.8%	2.28	0.910
68	3.8%	34.0%	41.5%	20.8%	2.79	0.811

N = 212

4.1.4.1 Hypothesis One

For the first hypothesis for Research Question 1, I predicted that administrators, teachers, and classified staff would differ in the extent to which they perceived Staff Focus factors to be in practice in their schools as measured by the questionnaire. For the

Staff Learning sub factor, the mean perception of practice for administrators was 2.91 (n = 36), for teachers was 2.97 (n = 132), and for classified staff was 2.91 (n = 44). For the Staff Motivation sub factor, the mean perception of practice for administrators was 3.07 (n = 36), for teachers was 2.57 (n = 132), and for classified staff was 2.81 (n = 44).

I conducted a one-way analysis of variance (ANOVA) to explore the impact of job classification on perceptions of the practice of the Staff Focus factor. There were no statistically significant differences at the $p < .05$ level between the perceptions of administrators, teachers, and classified staff for the Staff Learning sub factor or Staff Learning variables as shown in Table 4.11.

Table 4.11

One-Way Analyses of Variance for Effects of Classification on Five Staff Learning Dependent Variables for Practice Scale

	Administrators		Teachers		Classified		Anova	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	3	0.793	2.66	0.818	2.84	0.805	2.81	0.062
4	2.94	0.860	2.85	0.842	2.95	0.888	0.353	0.703
9	3.17	0.845	2.97	0.837	2.84	0.888	1.467	0.233
14	3.19	0.668	2.95	0.750	3.09	0.858	1.623	0.200
65	3.33	0.676	2.96	0.851	2.98	0.876	2.938	0.055
Subfactor total	3.12	0.487	2.87	0.607	2.94	0.71	2.323	0.719

For the sub factor of Staff Motivation, there was a statistically significant difference in the perceptions of practice for the Staff Motivation sub factor (F = 2.48, *df* = 2/209, *p* = .000), and for four of the Staff Motivation variables: items 50, 51, 55, and 60. Post-hoc comparisons using Tukey's HSD indicated that the mean scores of administrators were significantly higher than the mean scores of teachers for the Staff Motivation sub factor and for items 50, 51, 55, and 60 as shown in Table 4.12. There was a statistically significant difference between administrators and classified staff for items 50 (F = 6.36, *df* = 2/209, *p* = .002) and 51 (F = 8.07, *df* = 2/209, *p* = .000). There was a statistically significant difference between teachers and classified staff for items 55 (F = 12.40, *df* = 2/209, *p* = .000)., 60 (F = 9.026, *df* = 2/209, *p* = .000)., and the Staff Motivation sub factor (F = 12.071, *df* = 2/209, *p* = .000).

Table 4.12

One-Way Analyses of Variance for Effects of Classification on Five Staff Motivation Dependent Variables for Practice Scale

	Administrators		Teachers		Classified		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	2.89	0.854	2.56	0.84	2.91	0.936	3.856	0.023
50	3.31	0.786	2.75	0.841	2.82	0.843	6.36	0.002
51	3.19	0.668	2.58	0.772	2.68	0.1006	8.07	0.000
55	3.31	0.525	2.74	0.737	3.18	0.756	12.402	0.000
60	2.69	0.786	2.08	0.792	2.52	1.151	9.026	0.000
68	3.06	0.583	2.72	0.804	2.8	0.954	2.458	0.088
Subfactor total	3.07	0.477	2.57	0.535	2.81	0.707	12.071	0.000

4.1.4.2 Hypothesis Two

For the second hypothesis for Research Question 2, I predicted that the perceptions of the practice of Staff Focus would differ based on respondents' years of educational work experience. I divided respondents into three groups: three years or less of experience; four to ten years of experience; and more than ten years of experience. For the Staff Learning sub factor, the mean perception of importance for respondents with three years or less was 2.91 (n = 44), for respondents with four to ten years was 2.97 (n = 67), and for respondents with more than eleven years was 2.91 (n = 101). For the Staff Motivation sub factor, the mean perception of importance for respondents with three

years or less was 2.69 (n = 44), for respondents with four to ten years was 2.72 (n = 67), and for respondents with more than eleven years was 2.70 (n = 101).

To explore the impact of years of educational work experience on perceptions of the importance of the Staff Focus factor, I conducted a one-way analysis of. There were no statistically significant differences at the $p < .05$ level between the three educational experience groups for the Staff Learning sub factor or for the five Staff Learning variables as shown in Table 4.13.

Table 4.13

One-Way Analyses of Variance for Effects of Education Experience on Five Staff Learning Dependent Variables for Practice Scale

	3 years or less		4 - 10 years		more than 10 years		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	2.7	0.795	2.75	0.859	2.78	0.808	0.142	0.868
4	2.91	0.83	2.91	0.866	2.86	0.861	0.085	0.919
9	2.89	0.754	3.01	0.862	2.99	0.889	0.326	0.722
14	3.05	0.714	3.07	0.765	2.98	0.787	0.329	0.72
65	3.05	0.806	3.1	0.8	2.97	0.877	0.527	0.591
Subfactor total	2.91	0.582	2.97	0.614	2.91	0.641	0.166	0.847

For the sub factor of Staff Motivation, there were no statistically significant differences at the $p < .05$ level between the perceptions of the three educational experience groups, nor for any of the Staff Motivation variables as shown in Table 4.14.

Table 4.14

One-Way Analyses of Variance for Effects of Education Experience on Five Staff Motivation Dependent Variables for Practice Scale

	3 years or less		4 - 10 years		more than 10 years		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	2.77	0.774	2.61	0.797	2.7	0.965	3.856	0.624
50	2.8	0.795	2.94	0.736	2.83	0.949	6.36	0.623
51	2.68	0.829	2.79	0.769	2.66	0.886	8.07	0.612
55	2.8	0.734	2.91	0.753	3	0.748	12.402	0.309
60	2.27	0.949	2.28	0.884	2.28	0.918	9.026	0.998
68	2.84	0.861	2.79	0.88	2.77	0.747	2.458	0.897
Subfactor total	2.69	0.587	2.72	0.522	2.7	0.648	12.071	0.971

4.1.4.3 Hypothesis Three

For the third hypothesis for Research Question 2, I predicted that the perceptions of the importance of Staff Focus factors would differ based on the number of years that respondents had been involved with the Quality Schools Model. I divided respondents into two groups: three years or less of experience with the QSM, and more than three years of experience with the QSM. For the Staff Learning sub factor, the mean perception of importance for respondents with three years or less was 2.86 (n = 94), and for respondents with more than three years was 2.98 (n = 118). For the Staff Motivation sub factor, the mean perception of importance for respondents with three years or less was 2.70 (n = 94), and for respondents with more than three years was 2.71 (n = 118).

I conducted an independent samples *t* test was to compare the perception scores of the two QSM experience groups. There were no significant differences between the two groups for the Staff Learning sub factor, for Staff Learning variables; for the Staff Motivation sub factor; or for Staff Motivation variables. Tables 4.15 and 4.16 provide *t* test results for Staff Learning and Staff Motivation respectively.

Table 4.15

Perception Differences Between QSM experience groups for Five Staff Learning Dependent Variables for Practice Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t (210)	p
3	2.66	0.797	2.83	0.83	-1.516	0.131
4	2.83	0.812	2.93	0.884	-0.869	0.386
9	2.89	0.861	3.04	0.841	-1.266	0.207
14	2.95	0.709	3.08	0.801	-1.31	0.192
65	3.01	0.81	3.04	0.861	-0.274	0.785
Subfactor total	2.86	0.578	2.98	0.646	-1.387	0.167

Table 4.16

Perception Differences Between QSM experience groups for Five Staff Motivation Dependent Variables for Practice Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t(210)	p
46	2.68	0.858	2.69	0.892	-0.116	0.908
50	2.78	0.819	2.92	0.879	-1.248	0.213
51	2.69	0.83	2.72	0.846	-0.249	0.804
55	2.88	0.731	2.97	0.762	-0.804	0.423
60	2.29	0.935	2.27	0.893	0.127	0.899
68	2.88	0.815	2.72	0.805	1.454	0.147
Subfactor total	2.7	0.601	2.71	0.593	1.452	0.148

4.1.5 Research Question 3

Research Question 3 asked: Are there statistically significant differences between the extent to which respondents perceive Staff Focus items to be important and the extent to which they perceive Staff Focus items to be in practice as part of the Quality Schools Model in their schools? I conducted a paired-samples *t* test was to compare the importance perception scores to the practice perception scores. There were significant differences between respondents' perceptions of the importance and the practice of Staff Focus for the Staff Learning sub factor and Staff Learning variables, and for the Staff Motivation sub factor and the Staff Motivation variables. In all instances the mean score

was higher for the importance scale than for the practice scale. Table 4.17 provides t test results for Staff Learning and Table 4.18 provides t test results for Staff Motivation.

Table 4.17

Perception Differences Between Importance and Practice for Five Staff Learning Dependent Variables

	Importance		Practice		*t* test	
Variable	M	SD	M	SD	t(211)	p
3	3.38	0.668	2.75	0.818	10.13	0.000
4	3.53	0.641	2.89	0.852	1.0407	0.000
9	3.59	0.613	2.98	0.851	10.309	0.000
14	3.5	0.572	3.02	0.763	9.241	0.000
65	3.56	0.569	3.03	0.837	9.483	0.000
Subfactor total	3.51	0.481	2.93	0.618	13.446	0.000

Table 4.18

Perception Differences Between Importance and Practice for Six Staff Motivation Dependent Variables

	Importance		Practice		*t* test	
Variable	M	SD	M	SD	t (210)	p
46	3.58	0.615	2.69	0.875	13.155	0.000
50	3.52	0.627	2.86	0.854	11.078	0.000
51	3.47	0.656	2.71	0.837	13.015	0.000
55	3.67	0.553	2.93	0.748	13.31	0.000
60	3.37	0.694	2.28	0.91	16.122	0.000
68	3.51	0.612	2.79	0.811	12.422	0.000
Subfactor total	3.52	0.501	2.7	0.595	18.123	0.000

I developed three hypotheses to test the impact of respondents' demographic characteristics on the differences between importance and practice responses.

4.1.5.1 Hypothesis One

For the first hypothesis for Research Question 3, I predicted that the difference between perceptions of the importance and the practice of Staff Focus would vary for administrators, teachers, and classified staff. To explore the impact of job classification on the differences between perceptions of importance and practice, I conducted a one-way analysis of variance (ANOVA). There was no statistically significant difference at the $p < .05$ level between administrators, teachers, and classified staff for the differences

between the perceptions of importance and factor for the Staff Learning sub factor and Staff Learning variables as shown in Table 4.19.

Table 4.19

One-Way Analyses of Variance for Effects of Classification on the Differences Between Importance and Practice for Five Staff Learning Dependent Variables

	Administrators		Teachers		Classified		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	0.50	0.971	0.70	0.854	0.50	0.976	1.285	0.279
4	0.67	1.014	0.71	0.861	0.43	0.925	1.606	0.203
9	0.47	1.000	0.65	0.838	0.61	0.841	0.604	0.548
14	0.42	0.604	0.52	0.746	0.41	0.871	0.464	0.629
65	0.36	0.487	0.59	0.847	0.48	0.902	1.248	0.289
Subfactor total	0.48	0.580	0.63	0.595	0.49	0.738	1.432	0.241

For the sub factor of Staff Motivation, there was statistically significant variation between the classification groups for items 51 ($F = 4.41$, $df = 2/209$, $p = .013$), 55 ($F = 59.72$, $df = 2/209$, $p = .000$), 60 ($F = 7.09$, $df = 2/209$, $p = .001$) and for the Staff Motivation sub factor ($F = 52.93$, $df = 2/209$, $p = .001$). Post-hoc comparisons using Tukey's HSD indicated that for items 51, 55, 60, and for the Staff Motivation sub factor, the difference between perceptions of importance and practice was greater for teachers than for administrators. For items 55, 60, and for the Staff Motivation sub factor, the difference between teachers' perceptions of importance and practice was greater than that

of classified staff. Table 4.20 shows the ANOVA results for the Staff Motivation sub factor and variables.

Table 4.20

One-Way Analyses of Variance for Effects of Classification on the Differences Between Importance and Practice for Five Staff Motivation Dependent Variables

	Administrators		Teachers		Classified		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	0.75	1.052	1.00	0.965	0.66	0.939	2.445	0.089
50	0.42	0.806	0.73	0.881	0.66	0.888	1.891	0.153
51	0.42	0.649	0.88	0.865	0.70	0.904	4.405	0.013
55	0.56	0.558	0.92	0.825	0.36	0.810	9.718	0.000
60	0.78	0.797	1.29	0.969	0.77	1.054	7.094	0.001
68	0.58	0.649	0.80	0.869	0.57	0.873	1.852	0.160
Subfactor total	0.58	0.504	0.94	0.637	0.621	0.72	6.927	0.001

4.1.5.2 Hypothesis Two

For the second hypothesis for Research Question 3, I predicted that the difference between the importance of Staff Focus and the practice of Staff Focus would vary based on respondents' years of educational work experience. I conducted a one-way analysis of variance (ANOVA) to explore the impact of respondents' years of educational experience on the differences between perceptions of importance and practice. There were no statistically significant differences at the $p < .05$ level between respondents with three

years or less of experience, four to ten years of experience, or eleven years or more of experience for the Staff Learning sub factor or variables as shown in Table 4.21.

Table 4.21

One-Way Analyses of Variance for Effects of Edcuation Experience on the Differences Between Importance and Practice for Five Staff Learning Dependent Variables

	3 years or less		4 - 10 years		more than 10 years		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
3	0.59	0.787	0.75	0.958	0.564	0.91	0.864	0.423
4	0.59	0.844	0.82	0.968	0.554	0.877	1.868	0.157
9	0.68	0.707	0.64	0.829	0.564	0.877	0.333	0.717
14	0.45	0.729	0.57	0.782	0.425	0.739	0.737	0.48
65	0.48	0.792	0.55	0.784	0.534	0.843	0.118	0.888
Subfactor total	0.56	0.558	0.67	0.633	0.528	0.648	0.989	0.374

For the sub factor of Staff Motivation, there were no statistically significant differences at the $p < .05$ level between the perceptions of the three educational experience groups, nor for Staff Motivation variables as shown in Table 4.22.

Table 4.22

One-Way Analyses of Variance for Effects of Education Experience on the Differences Between Importance and Practice for Five Staff Motivation Dependent Variables

	3 years or less		4 - 10 years		more than 10 years		ANOVA	
Variable	M	SD	M	SD	M	SD	F (2, 212)	p
46	0.91	1.000	1.10	0.889	0.73	1.000	2.958	0.054
50	0.68	0.800	0.66	0.808	0.66	0.951	0.011	0.989
51	0.86	0.929	0.75	0.724	0.73	0.904	0.379	0.685
55	0.70	0.954	0.90	0.818	0.66	0.738	1.714	0.183
60	1.02	1.067	1.25	0.893	1.01	1.000	1.277	0.281
68	0.66	0.938	0.81	0.925	0.68	0.733	0.559	0.572
Subfactor total	0.81	0.732	0.91	0.515	0.75	0.694	1.235	0.293

4.1.5.3 Hypothesis Three

For the third hypothesis for Research Question 1, I predicted that the difference between the perceptions of the importance and practice of Staff Focus would vary based on the number of years that respondents had been involved with the Quality Schools Model. I divided respondents into two groups: three years or less of experience with the QSM, and more than three years of experience with the QSM. I conducted an independent samples *t* test to compare the differences between importance and practice scores for the two QSM experience groups. There were no significant differences between the two groups for the Staff Learning sub factor (t (210) = -.1.291, p = .198); for

Staff Learning variables; for the Staff Motivation sub factor (t (210) = -.527, p = .598); or for Staff Motivation variables. Tables 4.23 and 4.24 provide t test results for Staff Learning and Staff Motivation respectively.

Table 4.23

Perception Differences Between the Importance and Practice for QSM experience groups for Five Staff Learning Dependent Variables for Practice Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t(210)	p
3	0.712	0.798	0.56	0.974	1.232	0.219
4	0.702	0.840	0.6	0.953	0.803	0.423
9	0.734	0.844	0.52	0.874	1.823	0.07
14	0.521	0.667	0.44	0.811	0.776	0.439
65	0.531	0.812	0.53	0.813	0.058	0.954
Subfactor total	0.64	0.566	0.53	0.669	1.291	0.198

Table 4.24

Perception Differences Between the Importance and Practice for QSM experience groups for Five Staff Motivation Dependent Variables for Practice Scale

	3 years or less		more than 3 years		*t* test	
Variable	M	SD	M	SD	t (210)	p
46	0.957	0.96	0.83	0.998	0.935	0.351
50	0.734	0.818	0.85	0.829	1.025	0.306
51	0.851	0.829	0.69	0.872	1.324	0.187
55	0.723	0.847	0.76	0.791	-0.348	0.728
60	1.106	0.999	1.11	0.983	0.158	0.875
68	0.659	0.823	0.76	0.854	-0.887	0.376
Subfactor total	0.839	0.658	0.79	0.649	0.527	0.598

4.1.6 Research Question 4

Research Question 4 sought to discover the relationships among the Baldrige in Education Criteria that describe the Quality Schools Model, using the Baldrige in Education theoretical model as a starting point. This research question was shared by the four-member cohort, though each member developed hypotheses specific to his or her area of study. I developed three hypotheses for this research question: The variable of Staff Focus has a direct effect on Results as proposed by the Baldrige Criteria theoretical model; the variable of Staff Focus has a direct effect on Strategic Planning, Student, Stakeholder, and Market Focus, and Process Management as proposed by the Baldrige

Criteria theoretical model; and the variable of Staff Focus is indirectly affected by Leadership as proposed by the Baldrige Criteria theoretical model.

4.1.6.1 The Hypothesized Model and Confirmatory Factor Analysis

We hypothesized a seven factor model based on the Baldrige in Education measurement constructs. While our initial choice as a research cohort was to include all variables in the measurement model, that number of parameters would have led to an inadmissible solution. J. Schreiber et al. (2006) advised,

> The validity of the final results of the structural model is dependent on capturing and establishing the reliability of the underlying constructs. The power of SEM is seen most fully when multiple indicators for each latent variable are first tested through CFA to establish the conceptual soundness of latent variables used in the final structural model. (p. 335)

Working as a cohort and based on our literature review, we reduced the number of variables from the questionnaire to 55 from 72. Table 4.25 shows the variables retained for each factor.

Table 4.25

Questionnaire Items Considered for QSM Structural Model

Factor	Survey questions
Leadership	8, 39, 42, 47, 49, 31, 63, 66, 72
Strategic Planning	16, 34, 38, 45, 53, 54, 56
Knowledge Management	7, 20, 22, 25, 40, 52, 57, 59
Process Management	6,10, 12, 18, 21, 41, 58, 61
Staff Focus	4, 9, 14, 50, 51, 55, 65, 68
Student, Stakeholder, and Market Focus	1, 13, 15, 23, 35, 36, 37, 67
Results	5, 19, 26, 43, 64, 69, 70

Next we ran the CFAs for each individual factor. The results of the seven individual factor CFAs are in Appendix E.

J. Schreiber et al. called CFA and SEM "iterative processes by which modifications are indicated in the initial results, and parameter constraints altered to improve the fit of the model" (p. 335). We examined the CFA results to trim the number of variables down to 28 observed variables to achieve an acceptable model, following the advice of Bryant and Yarnold (1995):

> In deciding which factor loadings to include in a CFA model, researchers seek to develop parsimonious models in which individual items load on as few factors as necessary to reasonably fit the data. In this way, they balance their desire to explain variance in subject responses with their desire for conceptual parsimony. (p. 115)

Both Tabachnick and Fidell (2007, p. 710) and Garson (n.d.) provide guidance to determine the minimum number of variables that may be retained to create a measurement model. We retained four variables with the highest standardized regression weights and squared multiple regression scores for each factor. Cronbach's alpha for the four measurement variables within each latent variable are shown in Table 4.26. All of the alpha scores were > .70, the commonly accepted minimum for reliability of a scale.

Table 4.26

Cronbach's Alpha for Variable Subsets used for QSM CFA

Factor	**Cronbach's Alpha**
Leadership	.85
Strategic Planning	.80
Knowledge Management	.82
Process Management	.84
Staff Focus	.77
Student, Stakeholder, and Market Focus	.79
Results	.75

The second-order CFA model for the QSM data followed model conventions with ovals representing latent variables and rectangles representing the measured variables. The seven first-order latent endogenous variables fully explain the second-order latent exogenous variable of Baldrige in Education using the Quality Schools Model questionnaire items from the practice scale. In the CFA, the latent variables were

uncorrelated to free some parameters, shown by the change from curved lines to straight directional lines. J. Schreiber et al. called this process of model fitting in CFA and SEM "iterative processes by which modifications are indicated in the initial results, and parameter constraints altered to improve the fit of the model" (p. 335). The second-order CFA measurement model for the QSM data is recursive with 28 observed and 43 unobserved variables. There are 36 exogenous variables and 35 endogenous variables, shown in Figure 4.1.

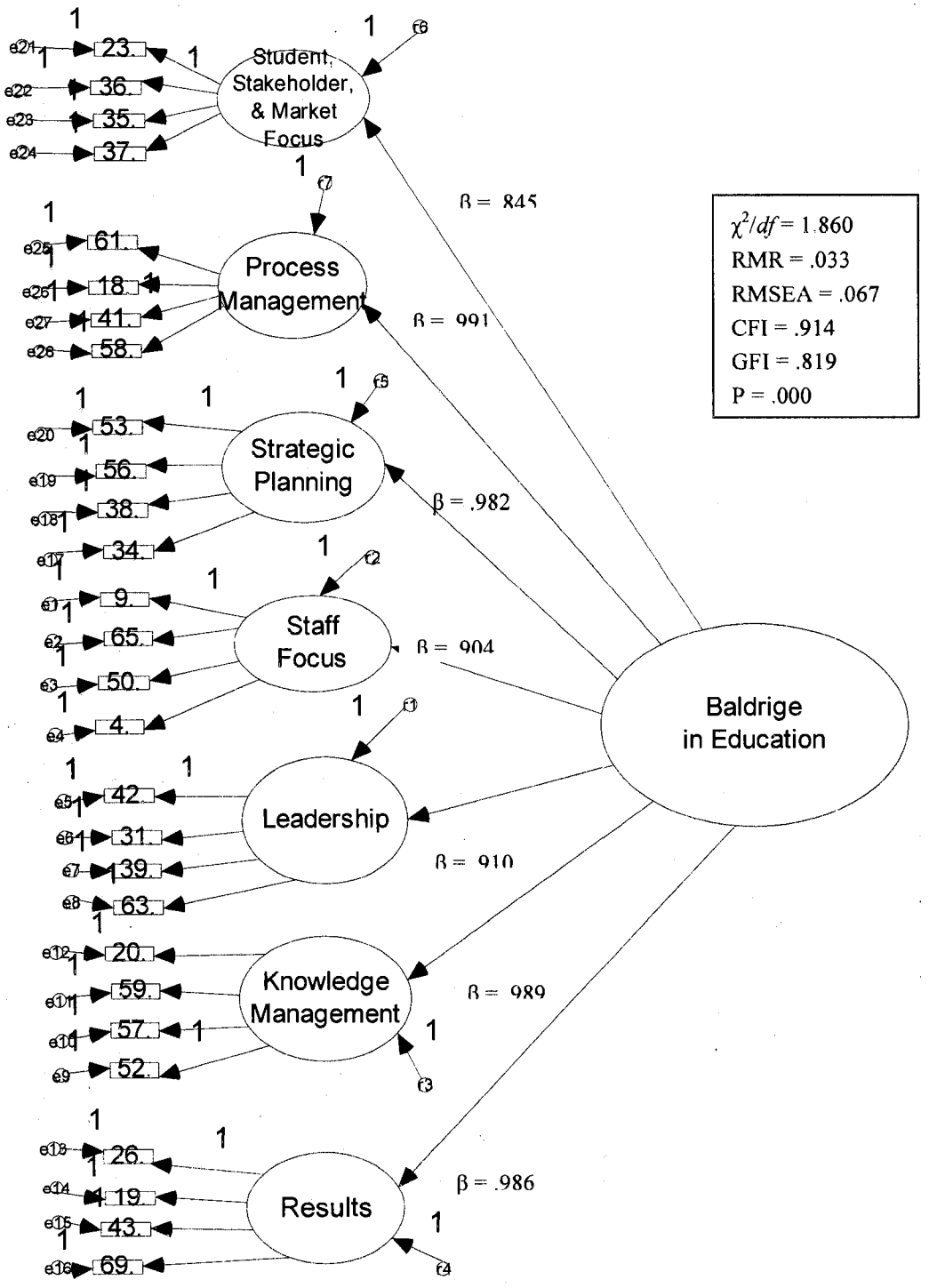

Figure 4.1 Second Order CFA for Quality Schools Model Practice Scale

Table 4.27 shows the unstandardized and standardized regression estimates for the second-order CFA model of the QSM data.

Table 4.27

Maximum-Likelihood Parameter Estimates of Quality Schools Model CFA

			B	*SE*	*p*	β
Student, Stakeholder, and Market Focus	<---	Baldrige in Education	.857	2370.420	***	.845
Process Management	<---	Baldrige in Education	.868	2402.413	***	.991
Strategic Planning	<---	Baldrige in Education	.888	2457.200	***	.982
Staff Focus	<---	Baldrige in Education	.815	2253.672	***	.904
Leadership	<---	Baldrige in Education	.880	2433.504	***	.910
Knowledge Management	<---	Baldrige in Education	.898	2485.084	***	.989
Results	<---	Baldrige in Education	.679	1879.572	***	.986
61	<---	Process Management	1.000		***	.700
18	<---	Process Management	1.156	.106	***	.792
41	<---	Process Management	1.033	.103	***	.723
58	<---	Process Management	1.106	.104	***	.769
4	<---	Staff Focus	.877	.112	***	.597
50	<---	Staff Focus	1.015	.115	***	.689
65	<---	Staff Focus	1.047	.113	***	.726
34	<---	Strategic Planning	.805	.086	***	.638
63	<---	Leadership	.956	.084	***	.759
59	<---	Knowledge Management	.916	.090	***	.687
23	<---	Student, Stakeholder, and Market Focus	.886	.102		.646
69	<---	Results	1.109	.163		.562
43	<---	Results	1.442	.175		.746
19	<---	Results	1.388	.169	***	.747
57	<---	Knowledge Management	1.127	.097	***	.770
20	<---	Knowledge Management	1.010	.096	***	.712
39	<---	Leadership	.978	.083	***	.779
31	<---	Leadership	1.037	.090		.772
42	<---	Leadership	1.000			.771
9	<---	Staff Focus	1.000			.681
53	<---	Strategic Planning	1.000		***	.756
38	<---	Strategic Planning	.981	.093	***	.716
56	<---	Strategic Planning	1.034	.098	***	.709
37	<---	Student, Stakeholder, and Market Focus	.876	.085	***	.724
35	<---	Student, Stakeholder, and Market Focus	.867	.088	***	.696
36	<---	Student, Stakeholder, and Market Focus	1.000		***	.766
26	<---	Results	1.000		***	.566
52	<---	Knowledge Management	1.000		***	.750

*** Significant probability at .01

Squared multiple correlation values are shown in Table 4.28. All indicator variables measured their corresponding latent variables moderately to very well with small to moderate covariance.

Table 4.28

Squared Multiple Correlations for the Second-Order Quality Schools Model CFA

Variable	R^2
Strategic Planning	.963
Student, Stakeholder, and Market Focus	.714
Staff Focus	.818
Knowledge Management	.979
Process Management	.983
Results	.972
26	.320
19	.558
52	.562
9	.464
34	.407
38	.513
56	.503
53	.571
23	.417
36	.587
65	.527
58	.591
41	.523
43	.557
69	.316
20	.507
39	.606
42	.594
63	.576
18	.627
61	.490
57	.593
59	.472
31	.595
37	.524
50	.475
4	.356
35	.484

4.1.6.2 Model Estimation

After establishing the factor structure of each of the seven measurement categories, we drew the structural model showing linkages supported by the theoretical literature and based on the findings of other researchers. The theoretical model hypothesizes and some researchers have found Leadership to have a direct effect on four factors: Knowledge Management, Strategic Planning, Staff Focus, and Process Management. The parameter values for the individual measurement variables were fixed to the values obtained in the individual factor CFAs to reduce the number of parameters being measured, as described in Garson (n.d.) and Edwin (2007, p. 102). Incorporation of all four causal paths produced an unacceptable fit for the model, so the paths were then tested one by one to achieve an acceptable fit. The acceptable fit structural model for the QSM data is shown in Figure 4.2. All except one of the paths shown on the structural model are significant. Model fit indices show that this is a good model of the relationships between the factors derived from the QSM data.

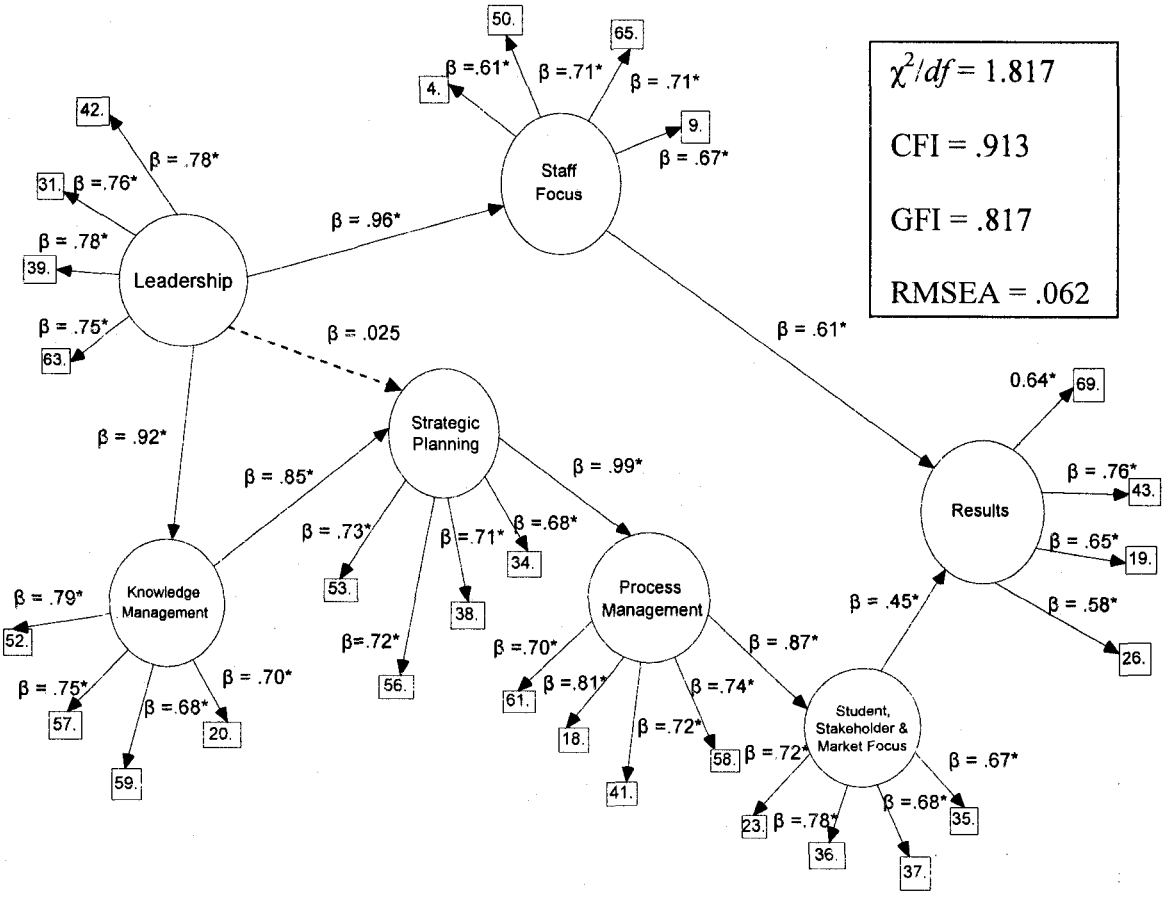

Figure 4.2 Structural Model for QSM Based on Baldrige in Education Factor Constructs

Table 4.29 presents the standardized loadings for the variables and factors, which can be used as an indicator of reliability that the items measure the construct they are intended to measure. All of the regression values are moderate (at least 0.5), with most above the 0.7 acceptable threshold for good reliability. Squared multiple correlations are shown in Table 4.30.

Table 4.29

Maximum-Likelihood Parameter Estimates of the QSM Structural Model

			B	*SE*	*p*	β
Knowledge Management	<---	Leadership	.938	.056	***	.920
Strategic Planning	<---	Leadership	.025	.203	.903	.025
Strategic Planning	<---	Knowledge Management	.937	.207	***	.975
Process Management	<---	Strategic Planning	1.048	.052	***	.992
Student, Stakeholder, & Market Focus	<---	Process Management	.872	.060	***	.869
Staff Focus	<---	Leadership	1.011	.058	***	.961
Results	<---	Staff Focus	.618	.122	***	.611
Results	<---	Student, Stakeholder, & Market Focus	.459	.129	***	.449
69	<---	Results	.640			.595
19	<---	Results	.650			.694
39	<---	Leadership	.780			.772
43	<---	Results	.760			.745
61	<---	Process Management	.700			.710
18	<---	Process Management	.810			.791
26	<---	Results	.580			.603
31	<---	Leadership	.760			.734
42	<---	Leadership	.780			.759
63	<---	Leadership	.750			.762
20	<---	Knowledge Management	.700			.690
59	<---	Knowledge Management	.680			.698
52	<---	Knowledge Management	.790			.782
57	<---	Knowledge Management	.750			.736
50	<---	Staff Focus	.710			.686
9	<---	Staff Focus	.670			.660
65	<---	Staff Focus	.710			.706
4	<---	Staff Focus	.610			.593
36	<---	Student, Stakeholder, & Market Focus	.780			.746
23	<---	Student, Stakeholder, & Market Focus	.717			.657
37	<---	Student, Stakeholder, & Market Focus	.680			.709
35	<---	Student, Stakeholder, & Market Focus	.670			.679
41	<---	Process Management	.720			.728
58	<---	Process Management	.740			.764
34	<---	Strategic Planning	.680			.677
38	<---	Strategic Planning	.710			.698
56	<---	Strategic Planning	.720			.676
53	<---	Strategic Planning	.730			.742

*** Significant probability at .01

Table 4.30

Squared Multiple Correlations for the QSM Structural Model

Factor or variable	R^2
Knowledge Management	.846
Strategic Planning	.996
Process Management	.984
Staff Focus	.924
Student, Stakeholder, and Market Focus	.756
Results	.995
53	.550
56	.457
38	.487
34	.458
58	.584
41	.529
23	.432
36	.557
65	.499
9	.435
52	.611
20	.477
43	.576
26	.363
63	.581
18	.625
61	.503
43	.555
57	.542
59	.487
31	.539
37	.503
39	.596
50	.471
4	.352
19	.481
69	.354
35	.461

The standardized residual covariances for the QSM structural model are presented in Table 4.31. Three of the Strategic Planning variables have an absolute standardized residual covariance value > 2 but they are randomly attached to other variables measuring

different endogenous factors. Since all other fit indices show acceptable values, the three standardized residual covariances > 2 are noted but accepted.

Table 4.31

Standardized Residual Covariances for the QSM Structural Model

Variable	53	56	38	34	58	41	23	36	65	9	52
53	.215										
56	.864	.618									
38	-.417	.139	.254								
34	-.118	.529	.139	-1.146							
58	.051	1.308	.250	-.534	.498						
41	.191	-.213	-.662	-.933	.122	-.111					
23	-.132	.599	.493	-.887	1.117	.763	.000				
36	.224	.332	1.035	.247	.524	-1.016	-.230	-.151			
65	.092	.390	1.488	-.341	.621	-.773	.644	-1.119	.037		
9	-.212	-.052	1.123	-.620	-1.030	.096	.993	-1.656	.778	.170	
52	-.420	.809	-.602	-1.393	.095	.001	-.744	-1.174	-.935	-.436	-.852
20	.233	-.460	-.250	-1.496	-.079	.185	1.105	-.849	1.172	.815	-.562
43	.155	-.718	.477	-.458	-.704	2.103	-.015	-.608	-.763	-.548	-.910
26	-.386	.076	-.156	-.717	-.508	-.209	.338	-1.037	-.992	-.717	-1.506
63	.123	-.079	-.694	-1.269	-1.087	.061	.773	-1.704	.270	1.515	-.444
18	-.821	-.317	-.060	-2.084	.317	-.034	.691	-1.374	.496	.493	-.992
61	.306	.532	.235	-.856	.393	.007	-.073	-1.858	.032	.013	.123
43	.961	1.299	.339	-.925	.032	.967	.524	-1.417	-.245	-.437	-.298
57	.638	1.434	.928	-1.108	1.192	.012	1.192	.266	.246	.247	.194
59	.633	.282	-.023	-1.457	.724	-.474	-1.266	-1.674	.815	.250	-.557
31	.707	.305	.658	-1.239	.025	-.039	1.375	.577	-.406	-.722	-.516
37	-.208	.739	2.234	.640	.849	-1.303	-.638	.941	.309	.488	-.977

Table 4.31

Standardized Residual Covariances for the QSM Structural Model continued

Variable	20	43	26	63	18	61	43	57	59	31	37
20	.294										
43	.700	-.141									
26	.874	-.801	-.678								
63	1.101	.111	-.089	.168							
18	1.141	-.104	.332	.124	-.361						
61	.253	-.844	-.307	.076	-.359	.001					
43	-.123	.577	-.689	.057	-.109	-.049	.007				
57	.716	-.772	-.344	-.668	.046	1.209	1.229	.871			
59	-.088	-.038	-1.531	.251	-.094	.591	.104	.748	-.141		
31	2.079	.312	.317	.341	1.040	.564	.708	1.206	-.330	.465	
37	-1.181	-.559	-.731	-.582	-.877	-.678	.472	1.898	-.646	.523	.087
39	.658	.354	-.331	.020	-.566	-1.257	-.919	-.498	-.635	.373	.493
50	.202	.319	-.992	.460	-.030	-.445	-.155	.124	-.867	.192	.436
4	1.735	-.880	-.683	.362	.269	-.282	.506	1.645	-.477	.063	.615
19	2.177	-.310	-.201	.200	2.614	.721	.225	2.089	.747	.929	.980
69	-.031	-1.043	-.530	-1.090	-1.125	-.705	.741	1.122	-1.370	.194	-1.029
35	-.321	.261	-.807	-.905	-.125	-.722	-.661	.972	-.228	1.765	-.321

Table 4.31

Standardized Residual Covariances for the QSM Structural Model, continued

Variable	**39**	**50**	**4**	**19**	**69**	**35**
39	-.435					
50	-1.032	-.151				
4	-.868	-.480	-.059			
19	.112	-.084	.613	.991		
69	-.392	-1.096	.101	-.462	-.642	
35	-.165	.348	-.238	.787	-1.196	.089

4.1.6.3 Structural Model Results

The QSM structural model in Figure 4.2 shows Leadership as the only exogenous latent variable in the structural model for the QSM data, and the only latent variable with an effect on all other latent variables. Leadership has a direct effect on Knowledge Management and on Staff Focus. Additionally, Leadership has a strong indirect effect (.944) on Results through the mediating variables of Staff Focus, and the path from Knowledge Management through Strategic Planning to Process Management to Student, Stakeholder, and Market Focus; on Strategic Planning (.896) through Knowledge Management as a mediating variable; on Process Management through the mediating variables of Knowledge Management and Strategic Planning (.914); and on Student, Stakeholder, and Market Focus through the mediating variables of Knowledge Management, Strategic Planning, and Process Management (.795). Four endogenous variables have a direct effect on other endogenous variables: Knowledge Management on Strategic Planning; Strategic Planning on Process Management; Staff Focus on Results; and Process Management on Student, Stakeholder, and Market Focus. Knowledge Management also has an indirect effect on Process Management through the mediating variable of Strategic Planning (.967), an indirect effect on Student, Stakeholder, and Market Focus through Strategic Planning and Process Management (.840), and an indirect effect on Results through Strategic Planning, Process Management, and Student, Stakeholder and Market Focus (.377). The indirect effect of Strategic Planning on Student, Stakeholder, and Market Focus through Process Management is .862. All six other factors influence Results in the Quality Schools Model, and four latent variables

(Leadership, Knowledge Management, Strategic Planning, and Process Management) affect the other latent variable (outcome) of Student, Stakeholder, and Market Focus. These results support one of the three hypotheses that I made for Research Question 4: that staff focus has a direct effect on results. However, the results do not support that staff focus has a direct effect on strategic planning, student, stakeholder, and market focus, or process management, nor that staff focus is indirectly affected by leadership.

The QSM structural model fits the Baldrige theoretical model which identifies each of the seven constructs as the driver, system, or result of the model. In the Baldrige model, Leadership has been classified as the *driver*, Knowledge Management, Process Management, Strategic Planning, and Staff Focus have been classified as *systems,* and both Results and Student, Stakeholder, Market Focus are classified as *outcomes*. In the QSM structural model results, Leadership drives the model influencing the outcomes variables (Results and Student, Stakeholder, and Market Focus) through two systems variables, Knowledge Management and Staff Focus. As a system factor, Knowledge Management has an effect on two other systems variables (Strategic Planning and Process Management), as well as both of the outcomes variables (Results and Results and Student, Stakeholder, and Market Focus).

4.2 Qualitative Results

4.2.1 Development of Codes, Categories, and Themes

The five interview questions generally connect to specific research questions as illustrated in Table 4.32.

Table 4.32

Relationship Between Interview Questions and Research Questions

Interview Question	Research Questions
Is the QSM important to you?	Research Question 1: To what extent do administrators, staff, and community members perceive Faculty and Staff Focus to be important as a part of the Quality Schools Model in their schools?
What do you know about the QSM? What is working well with the QSM?	Research Question 2: To what extent do administrators, staff, and community members perceive Faculty and Staff Focus to be in practice as a part of the Quality Schools Model in their schools?
What could be improved with the QSM? What recommendations or suggestions do you have for improving the QSM?	Research Question 3: Are there statistically significant differences between the extent to which respondents perceive Faculty and Staff Focus to be important and the extent to which they perceive Faculty and Staff Focus items to be in practice as part of

While there is a connection between the underlying theme of a research question and a specific interview question, I did not assume that quantitative and qualitative data would reveal similar findings. For example, in response to the interview question "What is working well with the QSM?" respondents may identify specific components of the model that they perceived as working well. The quantitative data could, however, show that respondents did not perceive Staff Focus to be strongly in practice in their school or district. My original intent for identifying the general connection between interview

questions and research questions was to guide the development of themes through the research questions after having coded the interview data and identified pattern codes. For example, an initial broad category of analysis was "value of the model for students." This code, in theory, relates well to Research Question 2 regarding the importance of the QSM. In reality, this approach, while convenient for synthesizing the quantitative and qualitative data, was too narrow and limiting of the themes that emerged from the data. While I was aware of and in agreement that "codes should relate to one another in coherent, study-important ways" (Miles and Huberman, 2994), I prioritized the development from the data of patterns and themes as they emerged from the perspectives of participants.

The initial categories of analysis resulted from the research questions themselves. They were value of the model, challenges of the model, and suggestions for improvement. From these, I created second level categories which related primarily to the groups of individuals for whom the model was valuable or challenging. I developed a third level of coding to express the ways in which the model was valuable or challenging for the stakeholder groups. For example, the second-level code "value of the model for students" had the following third-level codes: future success, growth in learning, voice and buy-in in their education, focus on their individual needs and accountability. Table 4.33 identifies the first-level, second-level, and third-level categories.

Table 4.33

Detail of the Three Levels of Interview Categories

Level 1	Level 2	Level 3
Value of the Model	Value for students	Future success Growth in learning Individual needs Buy-in for education
	Value for parents	Children's accomplishment Hope for the future
	Value for staff	Teacher autonomy Pride in model's progress
	Value for community	Buy-in, local pride
	Value for all	Vision of where we are going Shared leadership Always improving Model is consistent
	For students	Change Model is more rigorous
	For parents	Change Getting buy-in
Challenges of the Model	For Staff	Knowing how to assess A lot of work Multiple teaching strategies Cultural differences Change Teacher turnover Technical aspects Keeping up with content
	For Community	Buy-in, understanding Change
	For all	Change in system Slow implementation
Suggestions	Continuous improvement Teacher training Communication with home	

This approach resulted in the identification of themes that relate to the research questions in an overlapping manner. For example, one theme that emerged was the demanding nature of the QSM for teachers. Interview data that contributed to this theme may have had a first level code of "challenges of the model," a second-level code of "challenges for staff," and a third-level code of "model is demanding, a lot of work." This data could be interpreted as connecting to Research Question 3 concerning perceptions about what needs to be improved with the QSM. The same unit of data, however, might have had a first level code of "value of the model," a second-level code of "value for staff," and a third-level code of "empowerment to make decisions about teaching," connecting therefore to Research Question 1 about the model's importance. Ultimately, what was most important to me were the diverse data that contributed to the theme of the demanding nature of the QSM for teachers, not how that data could be assigned to a specific research question.

The data that I have presented as the qualitative results are those that represent the perspectives of, and about, staff working in schools that have implemented the Quality Schools Model. I have organized the qualitative results by theme within the two Staff Focus sub-categories, Staff Learning and Staff Motivation.

4.2.2 Staff Learning Themes

I found two themes related to Staff Learning in the interview data. The first was that the comprehensive reform required for the QSM was demanding for staff members. The second theme was that the staff members had to adjust to the many changes required for QSM implementation.

4.2.2.1 Demanding of Teachers

Staff members, parents, and community members noted that the implementation of the QSM had been challenging for staff. Three of the four teachers interviewed expressed that the QSM model was more demanding of teachers than other, more traditional, approaches to education. Reasons for the demands ranged from general ("If you're going to do a good job teaching standards there is no life for a teacher") to the specific ("You have to observe a student for 20 minutes three times before he can pass level four reading"). Community members, as well, were aware of the demands on teachers: "Too much pressure on the teachers right now. It is good that we are moving quickly with the implementation of the system, but it is sometimes too much for the staff," (retired board member); and "The new system is hard to learn. That one teacher used to always complain about too much paper work" (elder).

Quotes from teachers and principals identified three related, but separate challenges presented by the QSM that require a lot of work of teachers. Teachers found it difficult to cover and have expertise in the large number of standards for the QSM content areas. The following quotes illustrate this issue:

> "It's a big change because I'm not used to individually toggeling or darting each student for a specific objective." (teacher)
>
> "We often sit and swear, there are too many standards." (teacher)
>
> "The standards in writing are way too heavy." (teacher)
>
> "The hard spot for us is the foundation areas or the soft areas. The career skills, the life skills, the technology even though the desire is to incorporate them across

> the curriculum, across the other content areas. That's hard when you actually have to check off or mark specific standards." (principal)

The second area of difficulty was in assessing student learning of all of the required standards. One teacher commented, "So [students are] checking off when they meet standards but a lot of the times at the end of a lesson we are crammed for time and can't go get our standard book and see where we are emerging or developing."

A third area of challenge was in the use of a variety of teaching strategies, required by the QSM's Balanced Instructional Model. A principal noted that "teaching [the standards] in isolation in a sense defeats the purpose. It's hard for teachers... to realize that they can all toggle the same area." Some of the challenge related to teaching strategies was the model's focus on teaching methodologies appropriate for Alaska Native children. As explained by a teacher,

> In their culture you watch. I mean if you're going to learn to filet a fish you watch grampapa or you watch mom or dad. And you maybe watch them for six months before you even pick up an ulu to do it. Well, we don't do enough of that because in the elementary we're kinda spoon feeding more and I don't know how we get around that because the kids don't like to step out.

4.2.2.2 Difficulty of Change for Staff

The second theme in the data related to QSM's challenge in staff learning and the difficulty staff members have in adjusting to the many changes that are presented by the model. Quotes from staff members illustrated this theme:

[School name] never did really by into the system for two or three years. We were having success with what we were doing. I think it's been easier for the younger teachers to do it to grapple with this than the older teachers, especially if an older teacher has had some success with what they have done. I think this has been my struggle." (teacher)

"This is my first exposure here in Alaska using it. It's a big change." (teacher)

"Have to get adjusted. Have to learn this new system and I was used to this old. See every time we learn something new and we adapt to it another system come up and changes it. It's a big cycle thing we have to learn." (classified staff)

4.2.3 Staff Motivation Themes

Staff Motivation is the second sub-category of Staff Focus. Interview data revealed three themes related to Staff Motivation: improvement in student learning; shared vision/shared leadership; and the difficulty of teacher turnover.

4.2.3.1 Improvement in Student Learning

Interview data from teachers and administrators identified improvement in student learning and increased participation by students in their learning as a source of motivation for staff members. This is reflected in the following comments from teachers:

"We just finished our third year of making AYP. Math-wise we're top three in the district for scores and our reading and writing skills have been pretty much above the state level but we've worked our tail ends off."

"Attendance is much better now."

"Kindergarten kids are going to come out a little more advanced so that the first grade teacher doesn't have to spend a year teaching kindergarten again."

"I look at some of the younger kids coming up and they've been indoctrinated in what we're doing since they were in kindergarten. Now they're in fifth and sixth and they're right where they should be in terms of pacing and how they're participating in their own education."

"In the short time that I have been with the district, I have seen it work. Students know what level that they are on and what they need to do to graduate."

4.2.3.2 Shared Vision / Shared Leadership

The second Staff Motivation theme to emerge was that the QSM had provided a shared vision for where the school and district were going, and had involved stakeholders in the process by which that shared vision was established. A teacher explained that "[the QSM] has given our school and all [the students] a direction. We are all headed on the same path using the same sets of standards however we might do different things to get to that different end." This was echoed by a principal at another site who said,

...part of what works well is that as a district we don't have an end goal but we have a vision of where we we're gonna get, where we're going, and that continuous drive which is supported. Supported financially. It's supported by man-hours. It's not someone's dream. It's really a district I won't say dream, but district road we're traveling. You can feel very strongly that it's not going to be stopped. That's something that works very well.

> A second-year teacher said "the district has a shared vision and has schools making improvement plans" and a teacher in her sixth year of teaching explained that the QSM had provided "a lot more consistency across the district."

Staff members talked proudly about the stakeholder-inclusive way that the shared vision had been established and was continuing to be refined. When asked what was working well with the QSM a principal responded,

> I would think it's that sense of empowerment that everybody feels about the school. Students, teachers, they know that they can have a voice in the way we're gonna run things and they know that they can trust that process to help make sure things are gonna happen. Because of my belief in that type of leadership style, if it comes to a decision that's been made and I've asked people to be part of it and I don't necessarily agree with it, I'll still go with it because I know that that's part of that process and so in a sense it's going well.

He noted, as well, that students value their inclusion in establishing a direction for the school:

> I've really empowered the student council to have a voice in what we do, and they see it. Kids get it right away. When I hear them talking to other kids or adults about our student council that's one of the first things they recognize is that we do effect change in our school.

One teacher explained that students are empowered to influence specific components of the model to best fit their needs. He explained, "The nice thing about QSM is that if you

[the student] don't like what I got, you come up with it. You design it and I will let you know if it meets the requirements, but you design it."

4.2.3.3 Difficulty of Teacher Turnover

A third theme related to Staff Motivation was the difficulty of teacher turnover. Data from five of the fourteen interviews identified teacher turnover as challenging for effective implementation of the QSM. A district office administrator explained that, "With a high teacher turnover rate it is crucial that this road map of student expectations exists from year to year." Further, he stated:

> With our high teacher turnover it is hard to get our staff completely up to speed in a standards based system. Very few stay around long enough to master teaching in the new model and a few that do stick around do things their own way.

A village elder commented, "Keep the teachers at the schools for longer. It seems that when a teacher leaves it makes the kids sad. The new system is hard to learn." A principal referred to "the influx of new teachers" each year.

4.3 Summary

In this chapter, I presented the quantitative and qualitative results of the research. Quantitative results were based on data from questionnaire items that measured participants' perceptions of the importance and practice of Staff Focus. I presented quantitative data for the four research questions and corresponding hypotheses. Qualitative results were based on data from interviews conducted with 14 participants representing different QSM stakeholder groups. I presented the interview data within the

context of the two Staff Focus sub factors, and the themes that emerged from the data related to these sub-factors.

4.3.1 Research Question 1: Staff Focus Beliefs

For Research Question 1, I examined the effects of job classification, years of education experience, and years of QSM experience on respondents' perceptions of the importance of Staff Learning and Staff Motivation. As shown in Table 4.34, Hypothesis 2 was partially satisfied, while Hypotheses 1 and 3 were rejected.

Table 4.34

Findings for Research Question 1

To what extent do administrators, staff, and community members perceive Staff Focus to be important as a part of the Quality Schools Model?		
Hypothesis	Staff Learning	Staff Motivation
1 - difference btw. certified & classified staff	rejected	rejected
2 - difference btw. respondents with more and less educational work experience	btw 4-10 yrs and 11>yrs	rejected
3 - difference btw. respondents with more and less QSM experience	rejected	rejected

Quantitative results from the questionnaire showed that staff members, in general, agreed or strongly agreed that both Staff Learning and Staff Motivation were important with mean scores on a 4-point scale of 3.51 and 3.52 respectively. Item 55, "Our district recruits, hires, and retains the best possible faculty and staff," was perceived by staff

members as the most important variable with 96.7% of respondents choosing "agree" or "strongly agree."

Neither job classification nor years of QSM experience significantly impacted respondents' perceptions of the importance of Staff Learning or Staff Motivation, thereby resulted in the rejection of hypotheses 1 and 2. However, when years of education work experience was used as the independent variable (Hypothesis 2), there were statistically significant differences in mean beliefs between the respondents with four to ten years of experience and those with 11 years or more of experience for the Staff Learning sub factor. Staff members with four to ten years of experience had significantly higher perceptions of the importance of Staff Learning than did staff members with 11 or more years of experience.

4.3.2 Research Question 2: Staff Focus Practice

For Research Question 2, I assessed the extent to which respondents perceived Staff Learning and Staff Motivation to be in practice. As with Research Question 1, I examined the effects of job classification, years of education experience, and years of QSM experience on staff members' mean scores. As shown in Table 4.35, Hypotheses 2 and 3 were rejected while Hypothesis 1 was partially satisfied.

Table 4.35

Findings for Research Question 2

To what extent do administrators, staff, and community members perceive Staff Focus to be in practice as a part of the Quality Schools Model?		
Hypothesis	Staff Learning	Staff Motivation
1 - difference btw. certified & classified staff	rejected	btw administrators and teachers btw teachers and classified
2 - difference btw. respondents with more and less educational work experience	rejected	rejected
3 - difference btw. respondents with more and less QSM experience	rejected	rejected

For all Staff Learning variables, the majority of staff members (61.8% or greater) considered them to be practiced "frequently" or "always." For five of the six Staff Motivation variables, 55% or greater of the staff members perceived them to be practiced "frequently" or "always." However, item 60, "our district regularly assesses the satisfaction levels of staff members," had a mean score of 2.28 with only 35.4% of surveyed staff members considering this to be practiced "frequently" or "always."

Neither years of educational experience nor years of QSM experience (Hypotheses 2 and 3 respectively) significantly impacted respondents' perceptions of the practice of Staff Learning or Staff Motivation. However, when job classification was used as the independent variable (Hypothesis 1), administrators had significantly higher mean practice scores for Staff Motivation than did teachers.

4.3.3 Research Question 3: Differences between Staff Focus Beliefs and Practice

For Research Question 3, I assessed the difference between respondents' perceptions of the importance and practice of Staff Learning and Staff Motivation, and whether theses differences varied as a result of job classification, educational work experience, or QSM work experience (Hypotheses 1, 2, and 3 respectively). As shown in Table 4.36, Hypothesis 1 was partially satisfied, while Hypotheses 2 and 3 were rejected.

Table 4.36

Findings for Research Question 3

Are there statistically significant differences between the extent to which respondents perceive Staff Focus to be important and the extent to which they perceive Staff Focus to be in practice as part of the Quality Schools Model in their schools?		
Hypothesis	Staff Learning	Staff Motivation
1 - differences vary for certified & classified staff	rejected	btw administrators and teachers
2 - differences vary for respondents with more and less educational work experience	rejected	rejected
3 - differences vary for respondents with more and less QSM experience	rejected	rejected

There were significant differences between staff members' perceptions of the importance and the practice of both Staff Learning and Staff Motivation. In all instances, the mean score was higher for the importance scale than for the practice scale. For Staff Learning, the differences between the perceptions of importance and practice did not

significantly vary by job classification, years of educational experience, or years of QSM experience. For Staff Motivation, however, teachers perceived there to be greater gap between importance and practice than did administrators.

4.3.4 Research Question 4: A Structural Model of the QSM data

For Research Question 4, I examined the causal paths between the seven Baldrige factors using data from the practice scale of the QSM Questionnaire. I hypothesized that Staff Focus would have a direct effect on Results (Hypothesis 1); that Staff Focus would have a direct effect on Strategic Planning, Student, Stakeholder, and Markety Focus, and Process Management (Hypothesis 2); and that Staff Focus would be indirectly effected by Leadership (Hypothesis 3). As shown in Table 4.37, Hypothesis 1 was satisfied, while Hypotheses 2 and 3 were rejected.

Table 4.37

Findings for Research Question 4

What are the relationships among the Baldrige Criteria that describe the Quality Schools Model?		
Hypothesis	Accepted	Rejected
1 - Staff Focus has a direct effect on Results	X	
2 - Staff Focus has a direct effect on Strategic Planning; Student, Stakeholder, & Market Focus; and Process Management		X
3 - Staff Focus is indirectly affected by Leadership		X

As the driver of the model, Leadership had a direct positive affect on Staff Focus and Knowledge Management, and an indirect effect on the other four factors. I therefore

rejected Hypothesis 3 which predicted that Leadership would indirectly, rather than directly, affect Staff Focus. Staff Focus did, however, have a significant positive affect on Results as I predicted for Hypothesis 1. It did not, however, directly effect any of the other factors as I had predicted for Hypothesis 3 which I thereby rejected.

4.3.5 Qualitative Results

Two Staff Learning themes and three Staff Motivation themes emerged from the interview data. The first Staff Learning theme related to the demanding nature of the QSM for staff members. Administrators, teachers, classified staff members, and community members alike commented on the amount and complexity of work required for teachers by the QSM. The second Staff Learning theme was the difficulty staff members had in adjusting to or accepting the changes required for implementation of the QSM.

For Staff Motivation, the first theme was that administrators, teachers, and classified staff were motivated by the improvement in student learning and increased participation by students in their learning that had resulted from QSM implementation. The second theme from the interviews related to Staff Motivation was that administrators and staff were motivated by the consistency and direction that the QSM had provided and by their involvement in determining that direction. Finally, the impact and challenge of staff turnover was a third theme impacting Staff Motivation.

CHAPTER 5: CONCLUSIONS AND DISCUSSION

In this final chapter of the dissertation, I begin with a brief summary of the research problem and methodology. Next, I summarize my conclusions and discuss these conclusions as supported by the quantitative and qualitative data. Finally, I present the implications of the research findings and recommendations for further study.

5.1 Research Problem and Methodology

The purpose of this study was to describe the implementation of the Quality Schools Model in three rural Alaskan school districts by examining the importance and practice of the Baldrige in Education Criterion of Staff Focus as perceived by faculty, staff, and community members. Through a questionnaire administered to 212 school staff, I measured the importance and practice of two Staff Focus sub factors, Staff Learning and Staff Motivation, as represented by 11 items on the questionnaire. I examined the relationship between respondents' demographic charateristics and the mean scores for the two Staff Focus sub factors using one-way analysis of variance and pared-sample *t* tests. Concurrently, I described implementation of the QSM through 14 semi-structured interviews of school staff and community members. Finally, the causal relationships among the seven Baldrige in Education factors were examined using SEM. The research was in collaboration with three other cohort members all of whom used the same research design and instruments to answer three individual research questions and one shared research question.

5.2 Summary of Conclusions

My analysis of quantitative and qualitative data resulted in the following eight conclusions:

1. In the studied districts, Staff Focus is an important component of the QSM and worthy of the districts' ongoing and increased commitment to it.
2. While the majority of staff members perceived Staff Learning and Staff Motivation as practiced "frequently" or "always," they perceive them as significantly more important than in practice in their district and schools.
3. Participating staff and community members perceived the ASM to require an ongoing, increased focus on Staff Learning.
4. Participating staff and community members attributed improvements in student learning and the increased participation of students in their learning to implementation of the QSM, and these were motivating factors for staff members.
5. Participants perceived shared leadership in the QSM as important, practiced, and motivating.
6. Participants perceived teacher retention as a challenge to QSM implementation.
7. In the studied districts, Staff Motivation may not be practiced as frequently as administrators perceive it to be.
8. In the structural model, Staff Focus had a direct, positive effect on Results.

5.3 Discussion and Conclusions for Research Questions 1, 2, and 3

I present the following discussion of results collectively for research questions 1, 2, and 3 according to the two sub factors Staff Learning and Staff Motivation. For each

sub factor, I discuss the quantitative and qualitative findings in combination highlighting specific data for the purpose of supporting my conclusions and the implications of the findings which I present at the end of the chapter.

5.3.1 Discussion and Conclusions for Staff Learning

Five items on the Quality Schools Model Implementation Questionnaire represented Staff Learning as shown in Table 5.0

Table 5.0

Staff Learning Questionnaire Items

3. Our district plans effectively for transitions of personnel into leadership positions.
4. Our district has an effective training program in continuous improvement as part of our new employee orientation.
9. Faculty and staff are asked to identify the areas in which they would like to receive professional development.
14. Systems are in place to train and educate faculty and staff to achieve district goals.
65. Our district assesses the effectiveness of our training programs for staff members.

Both quantitative and qualitative data from this study showed that participants perceived Staff Learning to be important as a part of the Quality Schools Model. Quantitative data showed that irrespective of job classification, years of educational work experience, or years of QSM involvement, staff members agreed that all five Staff Learning variables were important with a combined mean score of 3.51 on a 4-point

scale. Interview comments by staff highlighted content-area knowledge, assessment practices, and teaching strategies as important for QSM staff.

Quantitative data also supported that respondents perceived Staff Learning to be in practice as a part of the QSM irrespective of their job classification, years of educational experience, or years of QSM experience. For all Staff Learning items, the majority of respondents perceived the items to be in practice "frequently" or "always" Item 3, "Our district plans effectively for transitions of personnel into leadership positions," had the lowest mean score of 2.75 with 34.4% of respondents perceiving that as practiced only "occasionally," and 4.7% of respondents perceiving that as practiced "never." Items 14, "Systems are in place to train and educate faculty and staff to achieve district goals," and 65, "Our district assesses the effectiveness of our training programs for staff members," had the highest mean scores with 3.00. For each of these items, greater than 72% of the surveyed staff members responded that these were in practice "frequently" or "always." However, while quantitative data affirmed that respondents perceived Staff Learning to be in practice in their schools, both quantitative and qualitative data suggested that Staff Learning practices were not in place to the extent ideal for QSM continuous improvement and sustainability.

Quantitative data showed a significant gap between the extent to which staff members perceived Staff Learning to be important and the extent to which they perceived it to be in practice. For each Staff Learning item, the extent to which respondents perceived the item to be important was significantly higher than the extent to which they perceived it to be in practice. Item 14, "Systems are in place to train and educate faculty

and staff to achieve district goals," had the lowest mean difference (.48) between importance and practice. Item 4, "Our district has an effective training program in continuous improvement as part of our new employee orientation," had the highest mean difference between perceptions of importance and practice (.65). Further, both staff members and community members commented in the interviews about the demands on teachers of learning all that was required for QSM implementation.

Administrators, teachers, classified staff members, and community members alike commented on the amount and complexity of work required for teachers by the QSM. Specific reasons given by interviewees for the demands placed by the QSM on teachers included the challenge of covering and having expertise in the large number of standards for each content area, the difficulty of assessing student learning for all of the required standards, and the complexity of using integrated and culturally relevant teaching strategies.

It may be that through the Shared Vision and Shared Leadership components of the QSM, community members become more aware than might be the case in more traditional school models of the day-to-day demands on teachers. However, interview comments from this study about the rigor for teachers of the QSM were consistent with previous QSM research and with literature about the demands of systemic reform on teachers. Marzano (2005) found that the QSM's Balanced Instructional Model (BIM), while a guide for teachers in the use of effective instructional practices, was unnecessarily complex and potentially confusing due to "the sheer number of elements it involves" (p. 34). He was concerned that the BIM "might spawn confusion for anyone

new to its structure" (p. 36). Linda Darling-Hammond (1992) explained that systemic reform "demands greater knowledge and skill on the part of teachers. It requires that teachers be able to respond to students' cognitive, physical, social, and psychological development incorporating these with knowledge of subject matter coupled with a wide range of pedagogical techniques" (p. 5).

Interview comments from staff provide evidence of specific QSM technologies that are implemented to guarantee, as much as possible, the competence of all students and the reciprocal interdependence in the learning process of student and teacher (Thompson, 1967). However, staff members in the interviews consistently cited these technologies as very labor intensive. Further, interview data suggested that staff and community members were concerned not only with the amount of work required by the QSM for school staff, but also with how different QSM work was for staff.

School staff and community members acknowledge that changes resulting from QSM implementation had been difficult for staff members, particularly at the beginning stages of implementation. Community members recalled the initial implementation of the QSM as "a lot of work and a lot of growing pains." Senge et al. (1999) identified ten reasons for resistance to change, four of which occur during the initiation of an innovation. One of these is that individuals may not perceive the innovation as relevant to them and won't buy-in or commit to a change if they can't relate to the value of the change. A teacher's interview comment which I first cited in Chapter 4 reflects this reason for initial resistance to the QSM:

> [School name] never did really buy into the system for two or three years. We were having success with what we were doing...I think it's been easier for the younger teachers to do it to grapple with this than the older teachers, especially if an older teacher has had some success with what they have done.

This teacher's experience is supported by Guskey's (1986) theory of attitude and perceptual change in teachers. He maintains that if teachers can see a positive impact on student learning as a result of specific instructional practices, they will reflect on, and perhaps change, their values and attitudes. Guskey advocates that practice changes attitudes, rather than attitudes changing practice as is reflected in the teacher's comments later in the interview: "We just finished our third year of making AYP. Math-wise we're top three in the district for scores, and our reading and writing skills have been pretty much above the state level but we've worked our tail ends off."

In summary, both quantitative and qualitative results for Staff Learning show that it is important and practiced in the studied districts. However, the degree to which the participants perceived Staff Learning to be important was significantly higher than the frequency with which they perceived Staff Learning to be practiced. This gap between the importance and practice of Staff Learning may have greatest implication for teachers new to the Quality School Model in the studied districts. The highest mean difference between importance and practice for any Staff Learning item was for item 4, "Our district has an effective training program in continuous improvement as part of our new employee orientation." Further, during the interviews participants recalled how difficult adjustment to the QSM had been for staff during its initial implementation. While the

model is beyond the initial implementation stages in each of the studied district, teachers new to the districts will experience a steep learning curve due to the unique, specific components of the QSM, some of which, according to Marzano (2005), are confusing and labor-intensive.

5.3.2 Discussion and Conclusions for Staff Motivation

Six items on the Quality Schools Model Implementation Questionnaire represented the factor of Staff Motivation as shown in Table 5.1.

Table 5.1

Staff Motivation Questionnaire Items

46. School staff are adequately prepared to handle disasters and emergencies.
50. Our district encourages faculty and staff to be involved in district-level decision making..
51. Staff members are given prompt positive feedback when they make contributions to school district quality.
55. Our district recruits, hires, and retains the best possible faculty and staff.
60. Our district regularly assesses the satisfaction levels of staff members.
68. Our staff effectively communicates and shares knowledge and skills across our departments, jobs and locations.

Quantitative data from this study showed that participants perceived Staff Motivation to be important as a part of the Quality Schools Model with mean scores ranging from 3.37 (item 60) to 3.67 (item 55). There was little variation in respondents' perceptions of importance due to job classification, years of educational work experience, or years of QSM involvement. Both quantitative and qualitative data supported that Staff

Motivation was in practice in the studied districts. For the practice scale on the questionnaire, the mean score for the Staff Motivation sub factor was 2.70. Interview data, likewise, provided evidence that staff and community members were motivated by the improvement in student learning and increased participation by students in their learning that had resulted from QSM implementation. Additionally, the consistency and direction that the QSM had provided and their involvement in determining that direction was cited in the interviews as motivating factors for staff and community members. However, as with Staff Learning, there were significant differences for all Staff Motivation items between respondents' perceptions of the importance of Staff Motivation and their perceptions of its practice.

The quantitative and qualitative data identified one Staff Motivation variable, in particular, as important for QSM implementation and improvement. For questionnaire item 55, "Our district recruits, hires, and retains the best possible faculty and staff," 96.7% of respondents agreed or strongly agreed that this was important as a part of the QSM. However, there was a significant gap between respondents' perceptions of the importance of recruiting, hiring, and retaining the best possible staff and their perceptions of its practice. The difficulty of teacher retention also emerged as a major theme in the interview data with administrators, staff members, and community members citing teacher turnover as an ongoing challenge for QSM implementation. There is no basis in this study for attributing teacher turnover in the studied districts to any specific cause, nor was that an objective of this research. However, both the quantitative and the qualitative data identified teacher retention in the studied districts as both important to and a source

of concern for the research participants. Other research (Beaulieu, 2000, and the McDowell Group, 2001) have identified staff turnover as a barrier to the effective education of students in predominantly Native populations.

In addition to a gap between the importance and practice of Staff Motivation, there were significant variations in respondents' perceptions of the frequency of practice as a result of job classification. For four of the six Staff Motivation questionnaire items and for the Staff Motivation sub factor as a whole, administrators' perceptions of the frequency of practice were significantly higher than teachers' and/or classified staff members'. Job classification did not, however, have a significant impact on perceptions of importance. In other words, while administrators, teachers, and classified staff similarly considered Staff Motivation items to be important, administrators perceived Staff Motivation to be more frequently practiced than did teachers or classified staff. I find this particularly important because the four items for which administrators' perceptions of practice were higher than the perceptions of other staff are areas that are generally administrative responsibilities, areas over which teachers and classified staff may have little influence. These areas included encouraging staff to be involved in district-level decision making (item 50), giving prompt positive feedback to staff (item 51), recruiting, hiring, and retaining the best possible staff (item 55), and regularly assessing the satisfaction level of staff members (item 60). If administrators' perceptions in these areas are higher than is actually the case, they may not be focusing on them to the extent needed for, or the extent perceived by teachers and classified staff as needed for, improvement. Further, quantitative data suggests that one method by which

administrators may be able to accurately assess teachers' and classified staff members' perceptions is not occurring on a frequent basis.

Item 60, "Our district regularly assesses the satisfaction levels of staff members" had the lowest mean practice score (2.28) and the highest mean difference between perceptions of importance and practice (1.09) of any Staff Motivation item. 89.6% of the respondents agreed or strongly agreed that this was important, however, only 35.4% considered it to be frequently or always practiced. It is possible that infrequent assessment of staff members' satisfaction levels contributes to inaccurately high perceptions among administrators about areas affecting staff motivation.

While administrators' perceptions of the practice of Staff Motivation items were significantly higher than that of staff members, both quantitative and qualitative data revealed ample evidence of staff motivation and the specific practices contributing to it. The practice of shared leadership emerged in both the questionnaire and interview data as important and practiced in the studied QSM schools. For item 50, "Our district encourages faculty and staff to be involved in district-level decision making," 95.7% of responding staff members agreed or strongly agreed that this was important. While their perceptions of its practice were significantly, lower that their perceptions of its importance, the gap between the two was less than for any other Staff Motivation item. In addition, many interview comments highlighted the importance and value of shared leadership within the QSM. Comprehensive School Reform (CSR) criteria identify creating shared leadership and a broad base of responsibility for reform efforts as one of eleven criteria essential for systemic reform. This study's findings are consistent with

Marzano's (2005) that the CSR criterion of shared leadership is addressed within the QSM. They are also consistent with Reagle's 2007 research on the QSM in which she found "a genuine shared vision that was fostered and supported by students, parents, community members, and educators" (p. 183).

While the quantitative and qualitative results confirmed the existence of shared decision-making among staff members in the studied districts, the qualitative results, in addition, identified the inclusion of students in decision-making processes as a motivator for staff. Staff talked of students "having ownership of their work," and being "empowered" to "effect change in the school." Community members, as well, echoed staff members 'perceptions of students' active involvement in their learning as a result of the QSM.

The results for Staff Motivation show that it is both important and practiced in the studied districts. Interview data revealed the shared leadership component of the QSM and the increase in student learning and participation in their learning as having positive impact on the motivation of staff. As with Staff Learning, perceptions of the importance of Staff Motivation were higher than perceptions of the frequency with which it was practiced. Further, administrators' perceptions of the practice of Staff Motivation were significantly higher than the perceptions of teachers and classified staff.

5.4 Discussion and Conclusions for Research Question 4

Research Question 4 asked: What are the relationships among the Baldrige Criteria that describe the Quality Schools Model? Through supporting hypotheses, I predicted that Leadership would indirectly affect Staff Focus, and have a direct effect on

four other Baldrige Criteria: Results; Strategic Planning; Student, Stakeholder, and Market Focus; and Process Management.

The structural equation model for this data set showed that Leadership directly influenced Staff Focus rather than indirectly as I hypothesized. In the model, Staff Focus directly, positively influenced Results as I predicted, but did not directly influence any of the other factors.

Several components of the structural model for my research correspond to the Baldrige framework theoretical model. This study confirms the premise of the Baldrige framework that Leadership "drives" the organizational system. In this study, Leadership is the only exogenous variable, directly and positively affecting, but not being affected by, other variables. Also, supporting the Baldrige framework was Leadership's indirect positive effect on the outcomes variables of Results and Student, Stakeholder, and Market Focus through other variables.

In this study, several findings did not support the Baldrige theoretical model but were consistent with other research. The following causal effects found in this study corresponded with the research of Badri et al. (2006), Winn & Cameron, 1998, and Meyers & Collier, 2001):

- Leadership had a direct positive effect on Knowledge Management.
- Leadership had a direct positive effect on Staff Focus.
- Knowledge management had a direct positive effect on Strategic Planning.
- Process management had a direct positive effect on Student, Stakeholder, and Market Focus.

Additionally, three other findings were consistent with the work of Badri and Winn & Cameron. Strategic planning had a direct positive effect on Process Management; Knowledge Management had an indirect positive effect on Process Management; and Staff Focus had a direct positive effect on Results.

The differences between this study's findings and the Baldrige theoretical model or other research was in the absence of causal influences of one variable on another. Both the Baldrige model and other researchers (Winn & Cameron, 1998 and Badri, 2006) have found a direct positive effect of Process Management on Results. This study did not show this influence. Other research, as well, (Badri, 2006 and Meyers & Collier, 2001) showed that Staff Focus positively effected Student, Stakeholder, and Market Focus. Again, that was not a finding in this study.

Of particular interest to me were the effects on and of Staff Focus. Two important findings resulted from the structural model. First, only Leadership had a positive effect on Staff Focus. No other variable had a direct or indirect effect on Staff Focus. Second, Staff Focus had a positive effect on Results. This suggests that through focusing on their staff, leaders in the studied districts can directly, positively influence organizational results.

The influences of Leadership on Staff Focus and of Staff Focus on Results were consistent with what I expected and with other research as cited above. It is the absence of causal relationships in the structural model for this study that I find surprising and about which I am cautious in proposing related implications for or recommendations to the studied districts. The complex and necessarily comprehensive nature of school reform

is well-established in theoretical literature as detailed in Chapter 2 of this dissertation. While this theoretical literature, as well as the research specific to structural models that I cited above, affirm the importance of leadership and of staff learning and motivation, they also assert the importance of these components within a system of comprehensive, systemic reform.

5.5. Implications of the Research Findings

As described in the 2006 Education Criteria for Performance Excellence, Staff Focus "examines how your organization's work systems and faculty and staff learning and motivation enable all faculty and staff to develop and utilize their full potential in alignment with your organization's overall objectives, strategy, and action plans," (p. 25). The results of this study indicate that much is going well in the studied QSM districts related to the learning and motivation of staff members as supported by the quantitative and qualitative data I discussed earlier in this chapter. This data also supports my recommending the following four specific implications for the studied districts as well as for other districts implementing or considering implementation of the Quality Schools Model: 1) ensure professional development for teachers and other staff new to the QSM; 2) review on a regular basis with both new and veteran staff members quantitative and qualitative data related to improvement in student learning since QSM implementation; 3) create and implement processes to regularly assess factors affecting staff motivation; 4) use the results of these assessments, as well as specific recommendations from Marzano's 2005 study of the QSM, to identify specific components of the model that could be revised in order to lessen the work load for teachers.

My first recommendation is that QSM districts ensure professional development for teachers new to the model. While it is possible that professional development for new staff is occurring regularly in the studied districts, the responses to item four on the questionnaire call that into question. Again, responses for this item (Our district has an effective training program in continuous improvement as part of our new employee orientation) showed the highest mean difference between perceptions of its importance and its practice. Further, and consistent with literature about the demanding nature of systemic reform for staff, interview responses revealed that staff resisted initial implementation of the QSM because of the dramatic, all-encompassing change required by the model. Staff members commented on the difficulty of breaking with past practices, of acquiring new knowledge and skills, and of agreeing that such radical change was truly necessary. While interview participants were able to reflect back on this initial resistance, teachers new to the QSM may experience a similar learning curve and initial resistance. It would be prudent for leaders within QSM district to anticipate these possible responses and to guarantee the professional development necessary to acknowledge and address such possible reactions. The specific content of professional development for new staff members should include not only orientation to the unique components of the model, but also a review of data related to the changes in student learning since QSM implementation.

The studied district should review on a regular basis with both new and veteran staff members quantitative and qualitative data related to improvement in student learning since QSM implementation. Interview comments by veteran staff revealed that

despite their initial resistance to the model, they had, in time, been won over by the changes they saw in their students. They cited the growth in learning that their students had attained through the QSM and their students' active participation in their learning as ongoing motivational factors despite the continued labor-intensive nature of the model. Regular review with veteran staff of student learning data would be in keeping with Guskey's (1986) theory of attitude and perceptual change in teachers which is that practices which result in a positive impact on student learning change attitudes. Quantitative student learning data, as well as qualitative data provided by veteran staff, could be particularly important for new staff members who are at the beginning of the learning curve for QSM implementation. New staff members need to hear veteran staff say that "in the short time that I have been with the district, I have seen it work," and that students "are right where they should be in terms of pacing." While in time new staff members will hopefully realize the value of the model for themselves, these kinds of assurances from veteran teachers may help to ameliorate for these new teachers the predictable resistance to change that occurs during the initiation of an innovation (Senge, 1999).

My third recommendation to QSM districts is that leaders create and implement processes to regularly assess factors affecting staff motivation. This recommendation stems primarily from the questionnaire data for the Staff Motivation items for which administrators' perceptions of Staff Motivation practices were significantly higher than those of certified and classified staff. A starting place would be the regular assessment of staff members' satisfaction levels given that only 35.4% of survey participants considered

this to be frequently or always practiced while 89.6% agreed or strongly agreed that doing so was important. One objective for such assessment processes should be the identification of the specific components of the model that could be altered in order to reduce the workload for teachers.

My final recommendation is that leaders in QSM district use the results of staff satisfaction assessments, as well as specific recommendations from Marzano's 2005 study of the QSM, to identify specific components of the model that could be revised in order to lessen the workload for teachers. Interview comments by both staff members and community members focused on the labor-intensive nature of the QSM for staff. Marzano's 2005 recommendation that QSM districts "dramatically decrease the number of decisions an individual teacher must make regarding the progress of individual students for specific subjects at a specific level," (p. 19) provides a starting place for making adjustments to the model.

Each of these specific recommendations is supported by the structural model results which suggest that focusing on staff learning and motivation is the responsibility of, and time well spent by, leaders in the three studied districts. In the model, only leaders caused staff learning and motivation to happen, and through a focus on staff, leaders can positively impact organizational results.

5.6 Suggestions for Further Study

While the direct and indirect effects in the structural model generally fit well with the findings of other researchers, the absence of some causal relationships (e.g. Leadership's influence on Strategic Planning) presents some interesting hypotheses to guide further research. A study in other QSM districts seeking to identify the causal relationships among the Baldrige Criteria would add valuable information to this study's results to inform district and school leaders about the criteria most important for positively impacting organizational results.

This study found few significant differences attributable to years of educational work experience or QSM experience in responses to the questionnaire. A study could be conducted to explore whether or not the components or systemic nature of the QSM minimizes differences among staff members that are suggested by either adult development theory or stages of reform implementation theory.

Finally, in both Reagle's 2007 study and in this study, qualitative data supported the existence of a strongly shared vision that provided consistent, motivating direction for staff, students, and community members. A study could be undertaken to identify the steps and processes by which this vision had been established in the studied districts.

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APPENDICES

APPENDIX A

2006 Baldrige in Education Criteria

Education Criteria (Total Points: 1,000)	Point Values
Leadership (120 points)	
• Organizational leadership	**70**
• Social responsibility	**50**
Core values:	
Visionary leadership: "Leaders set direction to create a student focused learning – oriented climate, clear and visible values and high expectations" (NIST 2003b, 1)	
Learning-centered education: "To develop the fullest potential of all students, education organizations need to afford them opportunities to pursue a variety of avenues to success. . . . A learning-centered education supports this goal by placing the focus of education on learning and the real needs of students. Such needs derive from market and citizenship requirements" (NIST2003b, 1).	
Strategic and operational planning (85 points)	
• Strategy development	**40**
• Strategy deployment	**45**
Core values:	
Focus on the future: "A focus on the future requires understanding the short-and longer-term factors that affect your organization and the education market" (NIST 2003b, 2).	
Student, stakeholder and market focus (85 points)	
• Student, stakeholder, and market knowledge.	**45**
• Student and stakeholder relationships and satisfaction	**45**
Core values:	
Agility: "Is an increasingly important measure of your organizational effectiveness. It requires a capacity for faster and more flexible response to the needs of your students, and stakeholders" (NIST 2003b, 3).	
Managing for innovation: "Means making meaningful change to improve an organizations programs, services, and processes and to create new value for the organization's stakeholders. Innovation should lead the organization to new dimensions of performance" (NIST 2003b, 4).	
Measurement, analysis, knowledge management (90 points)	
• Measurement and analysis of organizational performance	**45**
• Information and knowledge management	**45**
Core values:	
Management by fact: "Organizations depend on the measurement and analysis of performance. Such measurements should derive from the organization's needs and strategy, and they should provide critical data and information about key processes and	

Education Criteria (Total Points: 1,000)	Point Values
results" (NIST 2003b, 4).	
Staff Focus (85 points)	
• Work systems	**35**
• Faculty and staff learning and motivation	**25**
• Faculty and staff well-being and satisfaction	**25**
Core values:	
Organizational & personal learning: Requires a well-educated approach to organizational and personal learning. Organizational learning includes both "continuous improvement of existing approaches and adaptation to change, leading to new goals and/or approaches" (NIST 2003b, 2).	
Valuing faculty, staff, and partners: Means commitment to (staff and faculty) development and well-being. Increasingly, this involves "more flexible, high-performance work practices tailored to faculty and staff with diverse workplace and home life needs" (NIST 2003b, 3).	
Process management (85 points)	
• Learning-centered processes	**50**
• Support processes	**35**
Core values:	
Systems perspective: The Baldrige criteria provide a systems perspective for managing your organization and its key processes to achieve results-performance excellence. The seven Baldrige categories and the core values form the building blocks and the integrating mechanism for the system. However, successful management of overall performance requires organization-specific synthesis, alignment, and integration. Synthesis means looking at your organization as a whole and builds upon key education requirements, including your strategic objectives and action plans. Alignment means using the key linkages among requirements given in the Baldrige Categories to ensure consistency of plans, processes, measures, and actions. "Integration builds on alignment so that the individual components of your performance management system operate in a fully interconnected manner" (NIST 2003b, 5).	

APPENDIX B

IRB Approval Letter

UAF
UNIVERSITY OF ALASKA
FAIRBANKS

Institutional Review Board
909 N Koyukuk Dr. Suite 212, P.O. Box 757270,
Fairbanks, Alaska 99775-7270

April 23, 2007

To: Eric Madsen, Ph.D
Principal Investigator

From: Bridget Stockdale, Research Integrity Administrator
Office of Research Integrity

Re: IRB Protocol Application

Thank you for submitting the IRB protocol application identified below. I have administratively reviewed this protocol and determined that it meets the requirements specified in federal regulation for exempt research under 45 CFR 46.101(b)(2). Therefore, I am pleased to inform you that your protocol has been approved. .

Protocol #: 07-16

Title: *Beliefs and Practices Related to the QSM in Alaska*

Level: Exempt

Received: March 21, 2007
(orig) April 22, 2007 (rev)

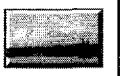
Approved: April 22, 2007

Exempt research does not require annual continuing review, but please submit any modifications or changes to this protocol to fyirb@uaf.edu for administrative review. Modification Request Forms are available on the IRB website (http://www.uaf.edu/irb/Forms.htm). Please contact the Office of Research Integrity if you have any questions regarding IRB policies or procedures.

APPENDIX C
Quality Schools Model Questionnaire

~threeNsolutions~

Research Adherence Monitoring Tools and Reporting System



Welcome to ~threeNsolutions~ Research Adherence

Quality Schools Model Implementation Survey

Home

Continue

2007 Quality Schools Model Implementation Survey
Informed Consent

ABOUT THE SURVEY

Description of the Study:

You are invited to take part in a research study about the Quality Schools Model in your school district. This study is part of the doctoral research for four students through the University of Alaska Fairbanks. All administrators, teachers, and support staff from your school district have been invited to participate. If you decide to take part, you will complete a survey that asks questions about your school and school district. The survey can be completed entirely online and should take about 30 minutes.

What are the risks and benefits of being in the study?

There are no known risks to participants in this study. We hope that what is learned in this study will help your school or district to improve its use of the Quality Schools Model.

Your decision to participate in this study is voluntary. You may stop participating in the survey at any time at no penalty to you.

Everyone who completes and submits a survey will be entered into a drawing for 80,000 Alaska Airlines miles, enough for two round-trip tickets. Additionally, 20 random winners will be selected to receive your choice of a $15 gift certificate from either iTunes or Pampered Chef. If you are a gift certificate winner, you will be notified immediately after you submit your survey.

What is the purpose of the survey?

The purpose of the survey is to determine participants' beliefs about the importance of factors related to implementation of the Quality Schools Model and the degree to which those factors are part of regular practice in three rural Alaskan School Districts.

Who is responsible for the survey?

The survey is a collaborative effort of four University of Alaska, Fairbanks doctoral students:

- *Dale Cope, fndjc2@uaf.edu*
- *Steve Atwater, fisaa@uaf.edu*
- *Bob Crumley, fnrc@uaf.edu*
- *Susan McCauley, fsem@uaf.edu*

If you have questions or concerns about your rights as a research subject, you may also contact the Research Coordinator in the Office of Research Integrity at University of Alaska, Fairbanks: 907-474-7800 or 1-866-876-7800, or by e-mail: fyrt@uaf.edu

CONDUCTING THE SURVEY

When will the survey take place?

The survey will be administered in spring 2007 to two different groups of participants.

How were respondents chosen?

Participants were invited from within Alaska School Districts who have implemented the QSM across the entire district for three or more years. All staff within the selected districts are invited to participate.

How is confidentiality treated in the survey?

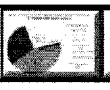
Though your name and contact information are requested to enter you in the drawing for airline miles, all identifying information will be removed from survey data by an independent agent before the data is returned to the researchers. All surveys will be coded so that no individual participant can ever be identified.

SHARING THE FINDINGS

How will the research results be released?

Each participating School District will receive a full report of the survey findings. The University of Alaska, Fairbanks will receive four complete dissertations, each analyzing the findings of the survey through a different lens.

By clicking the "continue" button in the left sidebar, I agree that I understand the procedures described on this page. I have been fully informed about this research and its possible benefits and risks. My questions have been answered to my satisfaction. I give my permission to participate in the research by responding to this survey. You may print a copy of this consent form using the "print" feature of your web browser.

~threeNsolutions~    *Reporting System~*

The Quality Schools Model
Survey Directions

There are 72 statements in the survey. For each statement, you should mark a response in the column on the *left* of the question, and mark another response in the column on the *right* of the question.

The column on the left is to record the "*Degree to which I believe & agree that this is important*", and the column on the right is to record the "*Degree to which I see this in practice in my district*". For each statement, there are four response choices.

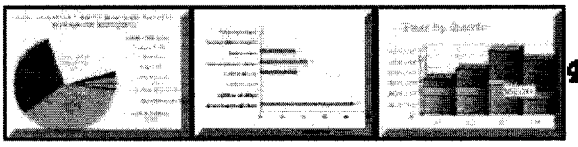
When you complete the questions on each page, click the "Next" button to continue. Each page is numbered so you can note your progress through the survey. Following the survey items, there are some questions about your job title, years of teaching, etc. (these are the survey *demographics).*

Once you've completed the survey items and the demographic section, the last step is to provide your name and contact information to be eligible for a drawing for 80,000 Alaska Airlines miles – our way of saying thanks for taking the time to provide us with your thoughtful responses.

Also, random survey participants will win your choice of either an i-Tunes or *Pampered Chef* gift card worth $15. Gift card winners will be notified immediately.

Be assured that the identifying information such as your name and address will be disassociated from your survey responses before the information is returned to the researchers.

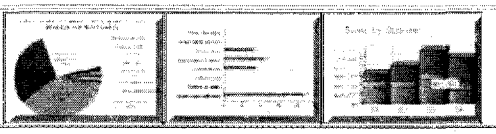
[BEGIN SURVEY]

~ threeNsolutions  Reporting System~

Belief: Degree to which I believe and agree that this is important				**Statement**	**Practice:** Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree	***one answer from each group is required before going on to the next page*** **IF YOU LOG OUT OF THE SURVEY, YOU MUST START OVER AT THE BEGINNING**	Never	Occas-ionally	Freq-uently	Always
☐	☐	☐	☐	1. Our district builds relationships with colleges, universities, vocational schools and other post-graduation training programs to help students transition from high school.	☐	☐	☐	☐
☐	☐	☐	☐	2. District leadership provides for staff and stakeholders to have input into the values, directions, and performance expectations of our school district.	☐	☐	☐	☐
☐	☐	☐	☐	3. Our district plans effectively for transitions of personnel into leadership positions.	☐	☐	☐	☐
☐	☐	☐	☐	4. Our district has an effective training program in continuous improvement as part of our new employee orientation.	☐	☐	☐	☐
☐	☐	☐	☐	5. Our personnel and human resource services operate efficiently and make a positive contribution to our school district's quality goals.	☐	☐	☐	☐
☐	☐	☐	☐	6. Our district has a set way to use information from multiple sources to achieve better performance.	☐	☐	☐	☐
☐	☐	☐	☐	7. We revise and change the types of performance data we collect as our needs and directions change.	☐	☐	☐	☐
☐	☐	☐	☐	8. District leadership requires legal and ethical behavior from themselves, staff, and students.	☐	☐	☐	☐
☐	☐	☐	☐	9. Faculty and staff are asked to identify the areas in which they would like to receive professional development.	☐	☐	☐	☐
☐	☐	☐	☐	10. Before we develop anything new, we assure that it will be of a higher quality than what we currently are doing.	☐	☐	☐	☐
☐	☐	☐	☐	11. Our schools continually evaluate how we determine the educational needs of our students.	☐	☐	☐	☐
☐	☐	☐	☐	12. Our district has steps in place to assure that instructional services are of high quality.	☐	☐	☐	☐
☐	☐	☐	☐	13. Our schools have data than enables us to monitor trends in the levels of student/family satisfaction over the past three years.	☐	☐	☐	☐

CONTINUE SURVEY

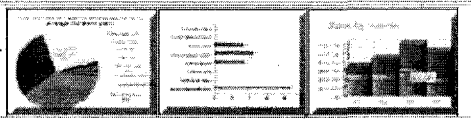
~ threeNsolutions



Belief: Degree to which I believe and agree that this is important				**Statement**	***Practice:*** Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree		Never	Occasionally	Frequently	Always
				****one answer from each group is required before going on to the next page*** IF YOU LOG OUT OF THE SURVEY, YOU MUST START OVER AT THE BEGINNING				
☐	☐	☐	☐	14. Systems are in place to train and educate faculty and staff to achieve district goals.	☐	☐	☐	☐
☐	☐	☐	☐	15. Our district keeps up with changing national, state, or local requirements.	☐	☐	☐	☐
☐	☐	☐	☐	16. Information is provided to me so that I know how resources are allocated to achieve our goals.	☐	☐	☐	☐
☐	☐	☐	☐	17. Our district measures staff learning and development in areas such as collaboration, and knowledge/skill sharing.	☐	☐	☐	☐
☐	☐	☐	☐	18. Our school district uses information about student learning needs to design new instructional services.	☐	☐	☐	☐
☐	☐	☐	☐	19. Our district can document that our quality measurements examine the most important factors that predict gains in student learning and student/family satisfaction.	☐	☐	☐	☐
☐	☐	☐	☐	20. District and school staff can quickly get information they need to make improvements in their work.	☐	☐	☐	☐
☐	☐	☐	☐	21. Our district has a set way to gather information on our students' needs.	☐	☐	☐	☐
☐	☐	☐	☐	22. Our district's performance is analyzed and the data is used in the strategic plan to improve our district.	☐	☐	☐	☐
☐	☐	☐	☐	23. Our district gathers information from former students and/or their parents for continuous improvement.	☐	☐	☐	☐
☐	☐	☐	☐	24. Our school district's strategic plan is based upon an analysis of a variety of data.	☐	☐	☐	☐
☐	☐	☐	☐	25. Performance review results are analyzed and used to improve district leadership and staff performance.	☐	☐	☐	☐
☐	☐	☐	☐	26. In general, parents are increasingly supportive of the professional staff and support staff of the school district.	☐	☐	☐	☐

CONTINUE SURVEY

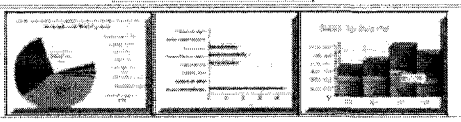
~ *threeNsolutions*



Belief: Degree to which I believe and agree that this is important				**Statement**	**Practice:** Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree	***one answer from each group is required before going on to the next page*** IF YOU LOG OUT OF THE SURVEY, YOU MUST START OVER AT THE BEGINNING	Never	Occasionally	Frequently	Always
☐	☐	☐	☐	**27.** Our district ensures that software and hardware systems (computers, internet, networks) are current with our district's needs.	☐	☐	☐	☐
☐	☐	☐	☐	**28.** I know how well our students are performing compared to similar schools.	☐	☐	☐	☐
☐	☐	☐	☐	**29.** Our district provides a computerized data management system for staff to utilize.	☐	☐	☐	☐
☐	☐	☐	☐	**30.** Our district regularly reviews and analyzes student learning and then creates processes that improves student success.	☐	☐	☐	☐
☐	☐	☐	☐	**31.** District leadership works to ensure that everyone knows what is going on.	☐	☐	☐	☐
☐	☐	☐	☐	**32.** District leadership regularly communicates to the staff and community about the importance of student/family satisfaction.	☐	☐	☐	☐
☐	☐	☐	☐	**33.** Students and staff provide input for key non-instructional services.	☐	☐	☐	☐
☐	☐	☐	☐	**34.** Our district involves staff and other stakeholders in improving the strategic planning process.	☐	☐	☐	☐
☐	☐	☐	☐	**35.** Our schools have procedures in place to assure that student/family complaints are resolved effectively and promptly.	☐	☐	☐	☐
☐	☐	☐	☐	**36.** Our district makes it easy for students, parents, and stakeholders to comment on the school district programs or services.	☐	☐	☐	☐
☐	☐	☐	☐	**37.** Our schools regularly initiate contact with parents and students to assess the levels of satisfaction with the schools.	☐	☐	☐	☐
☐	☐	☐	☐	**38.** Our school district's strategic plan addresses ways to significantly improve student learning and a student/family focus.	☐	☐	☐	☐
☐	☐	☐	☐	**39.** Stable and consistent district leadership helps lead toward successful QSM implementation.	☐	☐	☐	☐

CONTINUE SURVEY

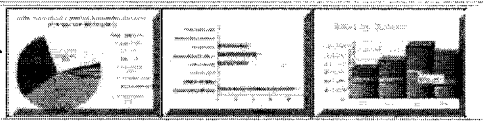
~ threeNsolutions



Belief: Degree to which I believe and agree that this is important				**Statement**	**Practice:** Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree		Never	Occasionally	Frequently	Always
				one answer from each group is required before going on to the next page IF YOU LOG OUT OF THE SURVEY, YOU MUST START OVER AT THE BEGINNING				
☐	☐	☐	☐	**40.** This district has effective ways to communicate important information to students.	☐	☐	☐	☐
☐	☐	☐	☐	**41.** Our district will change or redesign programs and offerings in order to improve student achievement.	☐	☐	☐	☐
☐	☐	☐	☐	**42.** District leadership does more than just talk about quality; they are very much involved in making it happen.	☐	☐	☐	☐
☐	☐	☐	☐	**43.** Our district tracks staff well-being, satisfaction, and development and continuously improves these areas.	☐	☐	☐	☐
☐	☐	☐	☐	**44.** information about best practices is collected and shared among staff members.	☐	☐	☐	☐
☐	☐	☐	☐	**45.** Our district has a written shared vision which is communicated with all staff and students.	☐	☐	☐	☐
☐	☐	☐	☐	**46.** School staff are adequately prepared to handle disasters and emergencies.	☐	☐	☐	☐
☐	☐	☐	☐	**47.** District leadership guides the district to practice good citizenship.	☐	☐	☐	☐
☐	☐	☐	☐	**48.** District leadership regularly communicates to the staff and community about the importance of quality in our system.	☐	☐	☐	☐
☐	☐	☐	☐	**49.** District leadership is trusted by students, staff, and community.	☐	☐	☐	☐
☐	☐	☐	☐	**50.** Our district encourages faculty and staff to be involved in district-level decision making.	☐	☐	☐	☐
☐	☐	☐	☐	**51.** Staff members are given prompt positive feedback when they make contributions to school district quality.	☐	☐	☐	☐
☐	☐	☐	☐	**52.** The quality data our district gathers covers a broad scope and comes from a variety of sources.	☐	☐	☐	☐

CONTINUE SURVEY

~ *threeNsolutions*



Belief: Degree to which I believe and agree that this is important				**Statement**	**Practice:** Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree	***one answer from each group is required before going on to the next page*** **IF YOU LOG OUT OF THE SURVEY, YOU MUST START OVER AT THE BEGINNING**	Never	Occa-sionally	Freq-uently	Always
☐	☐	☐	☐	**53.** Our district has a realistic timeline for achieving important goals and objectives.	☐	☐	☐	☐
☐	☐	☐	☐	**54.** Our district explains the overall strategic planning process to staff and students so that everyone knows the performance requirements.	☐	☐	☐	☐
☐	☐	☐	☐	**55.** Our district recruits, hires, and retains the best possible faculty and staff.	☐	☐	☐	☐
☐	☐	☐	☐	**56.** Our district's strategic plan is reviewed on a continuous basis by various levels of staff and translated into individual performance plans.	☐	☐	☐	☐
☐	☐	☐	☐	**57.** The student/family data we collect is translated into solutions to student/family problems.	☐	☐	☐	☐
☐	☐	☐	☐	**58.** Our district uses information gathered from our students to improve instructional services.	☐	☐	☐	☐
☐	☐	☐	☐	**59.** Our district use comparisons with similar school districts to guide the improvement of quality and to improve instructional services.	☐	☐	☐	☐
☐	☐	☐	☐	**60.** Our district regularly assesses the satisfaction levels of staff members.	☐	☐	☐	☐
☐	☐	☐	☐	**61.** Our district uses information from multiple sources when designing non-instructional services.	☐	☐	☐	☐
☐	☐	☐	☐	**62.** Our non-instructional services have performance measures that are analyzed to improve these services.	☐	☐	☐	☐
☐	☐	☐	☐	**63.** District leadership creates conditions for ongoing staff learning.	☐	☐	☐	☐
☐	☐	☐	☐	**64.** Our business/finance services operate efficiently and make a positive contribution to the district's quality goals.	☐	☐	☐	☐
☐	☐	☐	☐	**65.** Our district assesses the effectiveness of our training programs for staff members.	☐	☐	☐	☐

CONTINUE SURVEY

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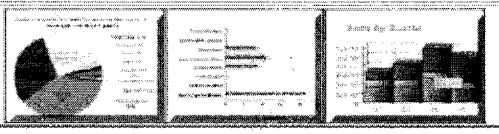


Belief: Degree to which I believe and agree that this is important				Statement	Practice: Degree to which I see this in practice in my district			
Strongly Disagree	Disagree	Agree	Strongly Agree		Never	Occa-sionally	Freq-uently	Always
				66. District leadership works to develop the future leaders of our district.				
				67. Our district has a way to determine basic student needs based on their career interests, learning styles, family needs, etc.				
				68. Our staff effectively communicates and shares knowledge and skills across our departments, jobs, and locations.				
				69. Our student/family support services (e.g. counseling services, health services) operate efficiently and make a positive contribution to our school district's quality goals.				
				70. Our district leadership works ethically, transparently, and is trusted by students, staff, and communities.				
				71. When our schools review our student/family satisfaction results, they are able to break the data into appropriate groups.				
				72. Our district leadership consistently emphasizes a focus on student learning when communicating to staff members.				

Demographic Questions

1. School District	Lake & Peninsula Kuspuk Bering Strait Chugach
2. Gender	Male Female
3. What is your job classification	Classified-classroom based Classified-non-instructional Teacher Administrator
4. Total years of Education Work Experience	First Year 1 to 3 Years 4 to 7 Years 7 to 10 Years 11 to 15 years more than 15 years
5. Years of Experience in your current district	First Year 1 to 3 Years 4 to 7 Years 7 to 10 Years 11 to 15 years more than 15 years
6. Years of Experience with the Quality School Model	First Year 1 to 3 Years 4 to 7 Years 7 to 10 Years
7. Have you participated in a school reform effort in another district	Yes No
7a) If so, how successful did you consider it to be	Not Applicable Very Successful Partially Successful Not Successful

ENTER DRAWING!

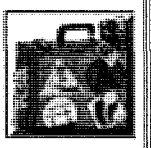
Last step of the Quality Schools Model Survey!

Congratulations!

You have successfully answered all the survey and demographics questions.
Enter yourself in the drawing for 80,000 Alaska Airlines miles AND a chance to win your choice of either an i-Tunes or Pampered Chef gift card worth $15!

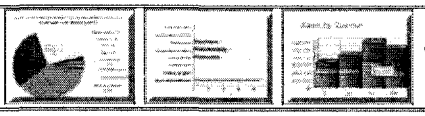
Tell us how to contact you when you win:

Name	
Address	
Phone Number	(enter as: xxx-xxx-xxxx)
E-Mail Address	



Thank you for participating and Good Luck in the drawing!

Enter Prize Drawings!

~threeNsolutions  *Reporting System~*

DrawingConfirmation

Survey Completion Confirmation

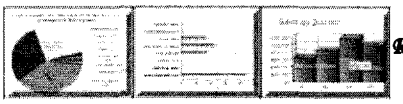
Congratulations!

You have successfully completed the Quality Schools Model Survey and your name has been entered in the Alaska Airlines miles drawing.

The winner will be drawn on May 15, 2007 and will be notified by June 1, 2007.

Thank-you!

Click here to exit this survey.

threeNsolutions  ***Reporting System~***

Revised March 2007

APPENDIX D
Interview Informed Consent and Protocol

Informed Consent Form for Interview

IRB #: 07-16 **Date: Approved: April 22, 2007**

Description of the Study:

You are being asked to take part in a research study about the school in your community. We are conducting this study as part of our college work at University of Alaska Fairbanks. As part of that study, we are interviewing some staff and community members. You are being asked to participate because the principal in your village said that you are someone who knows about the school. Please read this form and ask any questions you may have before you agree to be in the study.

If you decide to take part, you will be asked some questions about the school in your community. The interview should take about 45 minutes

Risks and Benefits of being in the Study:

There are no known risks to you for participating. We hope that what is learned in this study will help your school or district to improve.

Confidentiality:

Your answers to the questions will be kept anonymous. We will not ask for your name.

Voluntary Participation:

It is up to you to decide if you want to participate in the interview. You may say that you don't want to, or you may stop taking part at any time.

Contact Information:

If you have questions about the interview, please contact one of the researchers listed below.

Steve Atwater	Susan McCauley
ftsga@uaf.edu	ftsam@uaf.edu
Bob Crumley	Dale Cope
ftrlc@uaf.edu	ftdlc2@uaf.edu

If you have questions or concerns about your rights as a research subject, please contact the Research Coordinator in the Office of Research Integrity at University of Alaska, Fairbanks: (907) 474-7800 or (1-800) 876-7800, or by e-mail: fyirb@uaf.edu

SIGNATURE AND CONSENT TO PARTICIPATE:

Federal law and University regulations require that we obtain signed consent for participation in research projects involving human subjects. After you have read this project's purpose, procedures, benefits, and risks, please indicate your consent by signing the attached statement.

I have been fully informed of the above described research and its possible benefits and risks. My questions have been answered to my satisfaction. I have been provided with a copy of this consent form, and I give my permission to participate in the research by responding to this survey.

Name: _____
(please print)

Signature:_____

Date:_____

APPENDIX E
CFA Results for Individual Factors

Table E.1 Maximum-Likelihood Parameter Estimates for the Leadership Factor

Variable		B	*SE*	*p*	β	R^2
66	<--- Leadership	.530	.049	***	.679	.461
72	<--- Leadership	.468	.045	***	.660	.436
63	<--- Leadership	.583	.048	***	.745	.555
47	<--- Leadership	-.606	.033	***	.679	.462
49	<--- Leadership	.561	.052	***	.668	.447
42	<--- Leadership	.537	.051	***	.779	.575
39	<--- Leadership	.627	.048	***	.775	.606
31	<--- Leadership	.605	.047	***	.758	.601
8	<--- Leadership	.633	.050	***	.519	.269

$\chi^2/df = 1.476$
RMR = .020
RMSEA = .047
CFI = .984
GFI = .964

Table E.2 Standardized Residual Covariances for the Leadership Factor

	8	39	42	31	49	47	63	72	66
8	.000								
39	-.705	.000							
42	.413	.348	.000						
31	.421	.098	-.219	.000					
49	-.140	-.019	-.425	.749	.000				
47	.807	-.235	-.526	-.876	1.263	.000			
63	-.260	.254	.080	.050	-.898	.193	.000		
72	-.057	-.142	.431	.019	-.181	-.364	.169	.000	
66	-.428	-.289	-.032	.050	-.176	.918	.045	-.155	.000

Table E.3 Maximum-Likelihood Parameter Estimates for the Staff Focus Factor

Variable			B	*SE*	*p*	β	R^2
51	<---	Staff Focus	.554	.055	***	.663	.439
55	<---	Staff Focus	.410	.051	***	.550	.302
14	<---	Staff Focus	.500	.050	***	.657	.432
4	<---	Staff Focus	.516	.057	***	.606	.368
9	<---	Staff Focus	.565	.055	***	.666	.443
50	<---	Staff Focus	.600	.055	***	.705	.500
65	<---	Staff Focus	.591	.053	***	.707	.497
68	<---	Staff Focus	.467	.055	***	.578	.334

$\chi^2/df = 2.026$
RMR = .028
RMSEA = .070
CFI = .961
GFI = .954

Table E.4 Standardized Residual Covariances for the Staff Focus Factor

	68	50	65	9	4	14	55	51
68	.000							
50	-.619	.000						
65	.067	-.116	.000					
9	-.098	.029	.643	.000				
4	-.196	-.700	-.346	.671	.000			
14	.360	-.286	.509	-.664	1.757	.000		
55	.245	.975	-.299	-.862	-.770	-.695	.000	
51	.404	.763	-.585	-.072	-.497	-.816	1.188	.000

Table E.5 Maximum-Likelihood Parameter Estimates for the Knowledge Management Factor

Variable			B	*SE*	*p*	β	R^2
25	<---	Knowledge Management	.588	.055	***	.683	.466
22	<---	Knowledge Management	.512	.047	***	.688	.473
59	<---	Knowledge Management	.489	.049	***	.648	.420
57	<---	Knowledge Management	.638	.052	***	.748	.559
52	<---	Knowledge Management	.614	.047	***	.789	.623
59	<---	Knowledge Management	.525	.050	***	.675	.489
20	<---	Knowledge Management	.578	.052	***	.700	.456
7	<---	Knowledge Management	.433	.048	***	.578	.358

$\chi^2/df = 2.066$
RMR = .023
RMSEA = .071
CFI = .969
GFI = .955

Table E.6 Standardized Residual Covariances for the Knowledge Management Factor

	7	59	20	52	57	40	22	25
7	.000							
59	.647	.000						
20	-.519	-.010	.000					
52	.301	-.069	-.531	.000				
57	.055	.616	.132	.024	.000			
40	-.627	-.916	.661	.361	.754	.000		
22	.295	.146	.478	.134	-1.403	-.533	.000	
25	-.406	-.523	.036	-.057	-.036	-.453	1.266	.000

Table E.7 Maximum-Likelihood Parameter Estimates for the Process Management Factor

Variable			B	*SE*	*p*	β	R^2
21	<---	Process Management	.468	.050	***	.608	.370
12	<---	Process Management	.516	.048	***	.685	.470
18	<---	Process Management	.668	.048	***	.813	.661
61	<---	Process Management	.562	.051	***	.698	.487
41	<---	Process Management	.578	.050	***	.719	.517
58	<---	Process Management	.600	.050	***	.741	.425
10	<---	Process Management	.518	.051	***	.652	.549
6	<---	Process Management	.496	.049	***	.648	.420

$\chi^2/df = 2.485$
RMR = .026
RMSEA = .084
CFI = .958
GFI = .947

Table E.8 Standardized Residual Covariances for the Process Management Factor

	6	58	10	41	61	18	12	21
6	.000							
58	-.489	.000						
10	.876	-.362	.000					
41	-.350	.291	.464	.000				
61	.479	.545	-.485	.231	.000			
18	.239	.296	-.809	.024	-.317	.000		
12	.402	-.725	1.697	-.878	-.335	.011	.000	
21	-1.488	-.035	-.622	.146	-.020	.564	.640	.000

Table E.9 Maximum-Likelihood Parameter Estimates for the Results Factor

Variable			B	*SE*	*p*	β	R^2
43	<---	Results	.650	.055	***	.324	.578
26	<---	Results	.448	.054	***	.418	.331
64	<---	Results	.356	.051	***	.406	.246
70	<---	Results	.489	.052	***	.408	.408
69	<---	Results	.557	.059	***	.246	.406
19	<---	Results	.532	.055	***	.331	.418
5	<---	Results	.437	.053	***	.578	.324

$\chi^2/df = 1.715$
RMR = .024
RMSEA = .058
CFI = .973
GFI = .970

Table E.10 Standardized Residual Covariances for the Results Factor

	5	19	69	70	64	26	43
5	.000						
19	.574	.000					
69	-.031	-.527	.000				
70	-1.258	-.389	.264	.000			
64	2.049	-.376	-.181	.227	.000		
26	-.296	.360	-.342	.799	.012	.000	
43	-.169	.239	.394	.200	-.736	-.356	.000

Table E.11 Maximum-Likelihood Parameter Estimates for the Strategic Planning Factor

Variable			B	*SE*	*p*	β	R^2
45	<---	Strategic Planning	.428	.055	***	.535	.286
38	<---	Strategic Planning	.567	.051	***	.713	.508
53	<---	Strategic Planning	.565	.048	***	.735	.540
56	<---	Strategic Planning	.612	.054	***	.722	.521
54	<---	Strategic Planning	.551	.054	***	.664	.441
34	<---	Strategic Planning	.501	.047	***	.684	.468
16	<---	Strategic Planning	.583	.056	***	.674	.455

$\chi^2/df = 2.50$
RMR = .027
RMSEA = .084
CFI = .960
GFI = .956

Table E.12 Standardized Residual Covariances for the Strategic Planning Factor

	16	34	54	56	53	38	45
16	.000						
34	-.431	.000					
54	-.828	-.522	.000				
56	-.750	.251	.596	.000			
53	.513	.192	.518	.203	.000		
38	1.371	.243	-.198	-.663	-.635	.000	
45	-.227	.138	.327	.747	-1.213	.370	.000

Table E.13 Maximum-Likelihood Parameter Estimates for the Student, Stakeholder and Market Focus Factor

Variable		B	*SE*	*p*	β	R^2
15	<--- Student, Stakeholder, and Market Focus	.374	.048	***	.531	.282
13	<--- Student, Stakeholder, and Market Focus	.526	.060	***	.594	.353
23	<--- Student, Stakeholder, and Market Focus	.579	.059	***	.649	.421
36	<--- Student, Stakeholder, and Market Focus	.665	.053	***	.622	.613
35	<--- Student, Stakeholder, and Market Focus	.545	.053	***	.783	.451
37	<--- Student, Stakeholder, and Market Focus	.536	.051	***	.671	.462
1	<--- Student, Stakeholder, and Market Focus	.321	.050	***	.680	.203
67	<--- Student, Stakeholder, and Market Focus	.473	.053	***	.451	.362

$\chi^2/df = 2.199$
RMR = .030
RMSEA = .075
CFI = .951
GFI = .947

Table E.14 Standardized Residual Covariances for the Student, Stakeholder and Market Focus Factor

	67	1	37	35	36	23	13	15
67	.000							
1	.877	.000						
37	-.388	-1.351	.000					
35	-.326	-.226	-.040	.000				
36	-.457	-.204	.930	.883	.000			
23	.307	.559	-.330	-.434	-.407	.000		
13	.692	.830	.263	-1.335	-.593	.550	.000	
15	.543	.277	-.936	.451	-1.046	.988	1.135	.000